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Editorial

In quieter periods of our history than the present the framing of national security policies has been an evolutionary rather than a dialectic process in democratic countries. Defence has rarely been a subject in which politicians have discerned many votes, and governments, whatever their political complexion, have on the whole sought only to modify rather than to recast the basic strategic concepts which they have inherited from their predecessors. Political parties have generally been unwilling to commit themselves to anything more than generalities on the subject of defence while in opposition.

It is a clear sign of the gravity of the issues which confront the Western powers and of the degree of public concern which now exists about nuclear weapons and defence policy in general, that an influential section of the Democratic party in the United States and the official leadership of the Labour Party in Great Britain should have deemed it politically essential to frame a clear, alternative policy to that of the Republican administration and the Conservative government. Since there will be an election in both countries in the near future, in which the government of both may well change hands, we have reprinted a considerable portion of their recent statements. To illustrate the fact that the views of the Democratic National Advisory Committee find an echo in European military thinking we have accompanied their statement with an article by one of the foremost German military analysts. To show that the Labour Party's fears about the spread of nuclear weapon capabilities are well grounded we have accompanied their statement with a commentary on the first scholarly analysis of the real nature of the Nth power problem by a group of American scientists.

Colonel Larionov's article which shows that Moscow has at last discovered Kissinger, illustrates, as does Herbert Dinerstein's *War and the Soviet Union* (reviewed in this issue), the long time lag that occurs in each of the two great military blocs in discerning the direction in which thought is moving on the other side.

Condensed from:

Democratic Programmes for Action

The Military Forces We Need

The pamphlet from which this material is taken is one of a series published by The Advisory Council of the United States Democratic National Committee. The Chairman of the Committee responsible for foreign policy is Mr. Dean Acheson

JUST ninety-six years ago, in its General Order 100, the War Department stated the function of military force. "Modern wars are not internecine wars in which the killing of the enemy is the object," so the order read. "The destruction of the enemy, in modern war, and, indeed, modern war itself are means to attain that object of the belligerent which lies beyond war." In our new era of nuclear weapons it is all the more essential that in determining our military strategy, and the weapons with which to carry it out, we know clearly the objects of this nation which lie beyond war and the weapons of war. Once we know that, it will become apparent that some weapons, under certain circumstances, will be far better suited than others to further it.

What is this object? Is it self-preservation? Surely, in the last and most desperate eventuality. But there is much—and of the greatest importance—to be sought and defended short of that eventuality. What this is we may sum up as the maintenance of a world environment in which nations seeking, as we are seeking, to develop in their own way, free of dictation from others and without imposing our will on others, may survive and flourish. Putting it another way, our object is a workable system of free states, with the military force necessary to protect them, with the arrangements necessary for their economic development, and with sufficient community of ideas and purposes to hold them together. For it is only in this sort of world environment, it is only as a member of such a group of free states, that we Americans, and others as well, can continue to live according to our most cherished values. . . .

In this present-day world, military power is an essential prerequisite both for the security and survival of our free world environment and for any negotiated settlement of differences with the Sino-Soviet power. If the Communist powers are able to enforce their will, they have no need to adjust their interests to what they refer to as a condition of co-existence with what they dislike. Furthermore, we believe that the possession of power which cannot be coerced is the best hope of going beyond the settlement of specific differences to a broader agreement that would progressively relegate the reliance upon force to the background. Our long-range

objective is the reliable and effective control and regulation of armaments. We do not see how this objective can be achieved if the Russians, in the absence of agreement, are to be conceded unchallengeable superiority in the instruments of force. . . .

In the free world environment we seek, many other states and peoples than our own play essential, though varying, parts. The very spaciousness of the environment is a significant quality. Furthermore, in the maintenance of it, the factors of military strength, economic vigour, and political unity are all necessary to support one another in accomplishing the end sought.

The indispensable centre of the economic and military strength of this group of free states is the Western Hemisphere and Western Europe. The survival and development of free nations will rest upon the strength and unity of this central core. This, in turn, means that the freedom of Western Europe from Soviet domination is essential to preservation of this core. Without Western Europe as part of it, no strong and free group of nations will exist. On the contrary, should Western European production be available to the Soviet Union, it could extend its hegemony over Asia and Africa, perhaps even over South America. . . .

This conclusion does not depreciate the importance of other areas outside the Western Hemisphere and Western Europe. Obviously the Middle East, with its oil and as the crossroads of East-West and North-South routes, South Asia, South-east Asia, the Far East, and Africa are all associated with vital interests of a free world system. It would be disastrous should any of these areas now free be detached from the free and open world and be added to the closed Soviet Communist system. But the prime disaster would be to have this happen to Western Europe, if for no other reason than that it would greatly enhance the likelihood of its occurring in the other areas as well. . . .

The most likely form of conquest in 1949 was along the line of the take-over of Czechoslovakia, a Communist revolution supported by the presence or the threat of Russian troops, and Russian troops were present in large numbers in Eastern Germany and Poland.

At this time the United States had a monopoly of nuclear weapons. So the earliest NATO strategy rested on the sound belief that a small (compared to Russian forces) Anglo-American-European ground and air force would deter any surprise invasion of Western Europe aided by Communist uprisings, while the United States Strategic Air Command (S.A.C.), with its nuclear weapons, promised to counterbalance the Russian superiority in ground forces in the event of a large-scale invasion.

Today, this belief is no longer valid. In the first place, British and French forces in Europe, since 1951, have been decreased, not increased. The German contingent, slow as it has been in developing, is now the numerical equal of the British, larger than the French, and soon will furnish more manpower than all the rest of the European nations in NATO's important centre army. This primacy causes political concern among the European allies. So what we have is a NATO force too small, and politically unbalanced.

In the second place, there has been a radical shift in the balance of strategic nuclear power – involving both the weapon and the means of delivering it. Not only has Russia broken the American monopoly on the weapon, but it is dangerously ahead on long- and medium-range missile delivery. The Secretary of Defence concedes that on present expectations the next three years will give the U.S.S.R. a superiority over the United States of three to one in intercontinental ballistic missiles.

Even this gloomy statement may be optimistic. If present programmes of production are maintained on both sides – and there have been no decisions to change the U.S. programme – the U.S.S.R. may achieve a capacity to destroy U.S. retaliatory power at a risk which they might regard as worth running. To put the matter more graphically: Russian missiles, raining down on S.A.C. aircraft and missile bases, could end our capacity to retaliate, much as a knight in armour was rendered powerless when he was knocked off his horse and could not get to his feet again. Clearly, such a relative disadvantage in military strength would downgrade our capacity to deter war or prevent Soviet blackmail.

It should be obvious, therefore, what our first priority should be. It is to make certain with all possible speed that we have, and then to maintain, a position of adequate nuclear strategic strength *vis-à-vis* the U.S.S.R. By adequate nuclear strength we mean the situation in which the other side, even with the great

advantage of the first blow, cannot be confident of its ability so thoroughly to destroy our nuclear forces that it need not fear a retaliatory blow more damaging than it is willing to accept. If the U.S.S.R. also maintains such a posture, we can say that a situation of effective nuclear parity exists between the two countries.

Unless we maintain nuclear adequacy, it makes little difference what other weapons we produce. Either they would be knocked out before they could be used; or, better yet from a Russian point of view, the mere existence of her clear military supremacy could achieve diplomatic victories – i.e., changes in the conduct of peoples – without the use of that power. For without raising the statistics of the matter to the level of a universal law of history, there is overwhelming evidence to show that peoples and governments quickly adjust themselves to the reality of unopposable power.

Nowhere is this more likely to be true than in the case of nuclear weapons about whose catastrophic effects all peoples are vividly aware. If there were pretty solid evidence that the Russians could disarm or incapacitate the U.S. at a risk acceptable to them, then all Asians, most Europeans, and a pretty sizable number of Americans would be prepared to act on the evidence without inviting proof.

It is imperative to proceed with a programme of dispersing, hardening, and adding mobility to our strategic deterrent systems. The surest deterrent to an all-out strike against us would be the conviction on the part of the Russians that their first strike could not destroy an overwhelming proportion of our retaliatory delivery systems. . . .

The Consequences of Nuclear Parity

If one power has nuclear weapons in plenty, and the means to deliver them against another power's homeland, while the latter has none, it is pretty clear that the latter is not likely to attack the former. This is the situation, ideal from the point of view of the possessor of nuclear weapons, which is known as 'nuclear monopoly'. Some aspects of this situation existed between the United States and the U.S.S.R. from 1945 to 1949. We did have a monopoly of nuclear weapons. But those we had were few in number and of small power by today's standards; nor did we have very effective means of delivering those we had at inter-continental ranges.

There is another possible situation: one power may have nuclear weapons in large numbers and may have perfected the means to deliver them, while another power also has nuclear weapons and delivery means but one or both in substantially inferior numbers and quality. Again, the latter country is not very likely to attack the former. This situation, which can be described as a state of 'nuclear advantage' or 'predominance', really did exist around 1953–55. For after the development of the H-bomb, and the completion of our force of B-36 intercontinental bombers, and B-47 jet bomber force with overseas bases, the United States did achieve a position of overwhelming superiority in strategic nuclear force. Even though the Soviet Union was building up its weapons stocks, and was beginning to develop a long-range jet bomber force of its own, it was most unlikely that the Soviet Union would have considered attacking the United States, or any of our allies. She could have been punished severely with nuclear weapons without being able to strike back effectively.

The deterrent effect which our superior nuclear forces had upon Soviet policy in this situation has been called 'active deterrence'. It reached beyond protecting us against direct attack and modified the conduct of the potential aggressor in other ways. It was this 'active deterrence' which the Administration was exploiting when it announced the national strategy described by the press as 'massive retaliation'. This laid upon the Strategic Air Command the task of defending our allies everywhere, as well as the United States, against threatened Communist attack. Even then, however, the Soviet Union, though still relatively weak in nuclear weapons and delivery means, had significant capacity for administering nuclear destruction, particularly against our allies in Western Europe, which she might have used if pushed to the wall. This capacity on her part set limits on the use *we* could make of our 'active' deterrent. Its positive utility was limited. This possession of nuclear destructive capacity limited to last-resort use if threatened with attack or after actual attack has been called 'passive' deterrence.

It was our 'active' deterrent power which diminished as the Soviet Union grew in nuclear

strength. There was, of course, nothing unforeseeable about this, particularly after the Russians mastered the H-bomb in 1953. It explains why 'massive retaliation' turned out to be such a perishable strategy. For, in the state of nuclear parity, 'active deterrence' is attenuated, if not lost altogether, and powers in the state of nuclear parity retain largely 'passive deterrence', deterrence against direct attack. This rests upon the aggressor's belief that a direct attack, which does not destroy his victim's power to retaliate, will bring back upon him unacceptable damage. At the same time, the 'active' aspect of the deterrent weakens as the prospective user of strategic nuclear weapons contemplates the unacceptable damage to his own country which the use will surely bring down upon it.

Furthermore, as we permit the Russians to achieve a lead in strategic missiles, *their* deterrent power becomes increasingly 'active', while our strategic force continues to lose what 'active' significance remains to it. If we permit the Russians to achieve a decisive missile superiority, so that we cannot even be sure of our ability to administer a telling second strike, not only will our strategic power be stripped of its 'active' significance, but also even its ultimate value as a 'passive' deterrent will be placed in jeopardy. That is why it is of first importance that we have the position of parity in strategic power that seems quite possible if we make the effort.

Add to this weakening deterrent power of our strategic nuclear force the additional fact that the Russians, along with the development of formidable strategic nuclear force of their own, have maintained, modernized, and mechanized their vast land force, and have equipped it with 'tactical' nuclear weapons, and the full extent of the Western dilemma appears. Because of the mortal danger of Russian nuclear retaliation against the United States, the strategic nuclear power of the United States no longer furnishes to Europe the protection it once offered against the Russian land forces. Yet it was precisely while this change was occurring that the Administration committed this country to increasing dependence upon the deterrent power of our strategic nuclear forces and, by some strange madness, set about reducing our own land forces to pre-Korean strength – an example which had cumulative effects when the British and French reduced their contribution to Western Europe's local defences.

. . . With the dependence that can be placed upon our strategic forces declining because of growing Soviet nuclear strategic power, and those forces we might employ to fill the gap being reduced for budgetary reasons, the stage is being set for a major tragedy. In this situation, two antithetical and equally bad policies have found some supporters.

Limited Nuclear Warfare or Withdrawal

Spelled out to its fullest stretch, limited nuclear warfare means that the Soviet Union and the United States, as the two super-powers, will come to an unspoken understanding that, since atomic weapons are far too dangerous to use against each other, they would treat each other's territory as privileged, but would wage any atomic war on European soil, amid European peoples and European cities. If the aim of American policy is to preserve the people and civilization of Europe as essential to the existence of a free world, limited nuclear warfare is not the way to do it. Or again, if the aim of American policy is to develop strategic conceptions which our allies will support because those conceptions correspond to *their* own interest, then again, limited nuclear warfare has little place in such conceptions.

Those who are tempted to believe that a strategy of limited nuclear war would somehow bestow advantages upon our numerically inferior forces, should reflect upon the following considerations. All the best authorities are convinced that limited nuclear war will require more, not fewer, military forces at any particular level of effort. This is because there must be greater reserves in proportion to front-line troops, in order to make provision for the higher level of casualties expected; it is also because the supporting services in the rear of the combat zone must be more widely dispersed, which will inevitably require an increase in support strength.

It follows, of course, that limited nuclear war is not and cannot be *cheaper* than limited conventional war at any particular level of effort. More manpower and more widely scattered and secure supply and communication facilities spell greater expense. It also follows, for both reasons, that NATO cannot overcome its relative weakness, *vis-à-vis* the forces on the other side, by the simple expedient of committing

itself to the use of nuclear weapons. On the contrary, the commitment to nuclear weapons inevitably *increases* the relative advantage of the other side – provided Russian forces are also equipped with nuclear weapons, as we know that they are, and provided the Russians and their satellites continue to be willing to maintain larger forces under arms and to spend a greater amount upon arming them.

That is not to say, of course, that we can expose our forces to Communist nuclear attack while they are prepared to defend themselves only with conventional arms. It does mean that, as there is no military advantage for NATO forces in resorting to nuclear weapons, and as there are decided political disadvantages in it, the nuclear weapons with which our forces in NATO are equipped should be regarded as serving the purpose of deterring the Russians from using *their* nuclear weapons in a limited attack. This must be their primary function; their employment in actual combat must be secondary, to be resorted to only if the Russians themselves initiate the use of nuclear weapons, or if the circumstances should, unhappily, lead to a general war.

Some of those who see that a strategy of limited nuclear war in Europe will not strengthen or unify the transatlantic coalition, suggest going to the opposite extreme. They despair that military power – except possibly nuclear strategic power – can play a part in keeping Western Europe from being dominated by Soviet power, and so advocate withdrawing American forces from Europe. This they put forward, in what they consider a nearly hopeless situation, as a step toward, rather than the result of, a solution of the fundamental issues which exist between the Soviet Union and the Western powers regarding Europe.

Now if, as we have pointed out above, the aggregated strength of Europe and North America is necessary to withstand Soviet purposes in Europe, then to withdraw American participation in the defence of Europe is to ensure that there shall be no effective opposition to the Soviet will in Europe. But one may ask, will not the threat of American nuclear retaliation be sufficient protection to Europe? We have already pointed out that in a condition of nuclear parity it will not provide this active deterrent. It is not sound strategy to rely on any nation's willingness to destroy itself in order to aid its allies – particularly when, at the same time, it would in all likelihood ensure the destruction of its allies as well.

Withdrawal of American forces from Europe may well be possible – indeed we earnestly hope it will be – when a settlement of outstanding issues and a more stable power relationship have been achieved in Europe. But to attempt it under present circumstances would be, as we point out below, to destroy the possibility of reaching those settlements, that relationship, and, indeed, of preserving a free Western Europe.

The Nub of Policy

The answer, then, to our dilemma is not to be found – if we want to maintain a coalition of free powers – by a plan of fighting small nuclear wars in our allies' territory. It is not to be found by withdrawing from our alliance, and leaving our friends, whose preservation is essential to ours, without a defence against Soviet domination. Where, then, is it to be found? It is to be found, we believe, in increasing the hazards to the Soviet Union in using its land forces, until such use is as full of danger as using nuclear force in the first instance.

Only by such a strategy, if it can be devised, will Russia's vast lead in land forces be met and a real incentive be given to the Soviet Union to move toward the control and limitation of armaments. How might this be done?

If an increase in defence forces available in Europe were combined with a vigorous new flow of scientific and military invention, these smaller defensive forces could be made, for some time at least, more nearly the military equal of a larger aggressive force. This has happened before and it can happen again. What is needed is a substantial strengthening of the European, British, Canadian, and American ground and tactical air forces assigned to NATO or in strategic reserve available to support NATO. These forces should be prepared to defend Western Europe with conventional weapons, but should also be equipped with sufficient nuclear firepower to deter the Russians from using their tactical nuclear weapons. Once these forces are in existence, then our strategic nuclear forces – if strongly pushed – will again take on some of the character of active deterrence. For if it were clear that any

hostile military action against Western Europe could and would be contained for some time, the aggressor would face formidable problems.

Let us look for a moment at the risks which a prospective aggressor must face. We may assume that he has tried atomic blackmail – that is, he has sought and failed to achieve his political objective, whatever it may be, by intimidating his elected victims with the threat of nuclear destruction. If the political objective of his aggression is restricted to Western Europe, he will want to make certain that the military action planned when he launches his attack will be limited, and will appear to be limited, to Western Europe. Above all, he will desire to minimize the chance of the military action being so extended that it may involve the destruction of his own homeland. He has, then, two choices: he can attack either with conventional weapons alone, or with nuclear weapons as well. In either case he must be careful to make the limited character of his purpose evident. But he will want to get the action over with quickly, and, to do this, he must employ force decisively superior to the defence he expects to encounter. This is where he runs into difficulty; and it is by exploiting this difficulty that we may hope to deter him without matching his forces, man for man, tank for tank, and A-bomb for A-bomb.

The aggressor's problem is that if the defence is substantial it is extremely difficult to launch an attack against it that is *both* overwhelming *and* convincingly limited. Against a relatively weak defence, which the improvidence of its members during recent years has now given to NATO, the aggressor may believe that a quite restricted attack would promise quick success. It is because they are inclined to agree with this that the NATO military authorities feel that NATO has no choice but to fall back immediately upon the stategic deterrent, hoping that the threat of strategic nuclear retaliation in case of attack will be sufficiently credible to deter the aggressor. But if his objective is a strictly limited one (and if it is not, he is not likely to bother with Europe, but will attack the United States directly), he may reason that the threat is a bluff. For he knows, and knows that NATO knows, that what Western Europe stands to lose if his limited attack is a success, at least if it is a conventional attack, is incomparably less than what Western Europe stands to lose in a strategic nuclear war. If this is his reasoning, he may proceed with his attack, hoping to overwhelm the weak defence and obtain his objective while the NATO governments are trying to steel their souls to a nuclear holocaust.

Suppose, however, that the defence is not weak. Suppose it is strong enough so that to be sure of winning he must undertake a major mobilization of his forces, must move millions of men around, disrupt his economy and the economies of his allies, and expose his vast forces to military counteraction by concentrating them in the forward areas behind the line of attack. A strong defence will force this action whether the aggressor is planning a purely conventional assault or is planning an assault with tactical nuclear weapons, so long, that is, as he does not throw aside all pretence of limited action and use his own strategic nuclear forces. Such a concentration would, indeed, be required to attack a NATO force of even thirty divisions, which is General Norstad's minimum objective for the central front (the Alps to the Baltic).

Would the aggressor take such a risk? He would know that a vigorous and sustained defence, such as a NATO force of this kind could put up, would raise tensions to the point where he would have to be prepared to use his strategic nuclear weapons in a pre-emptive strike against North America to forestall a first blow against him by the United States which, in circumstances of mounting tension, must be fearing just such a pre-emptive blow. In short, the *minimum* action required to achieve his objective would be so great that the chance of limiting the ensuing action would appear small.

In this situation, where the aggressor's calculated design is a limited operation to achieve a specific objective, and not the annihilation of the victim, it would be foolish for the aggressor to contemplate the use of nuclear weapons, assuming that both sides have them for 'tactical' use. To be sure, an aggressor would be likely to threaten the use of nuclear weapons in the hope of intimidating his prospective victims into concessions or surrender. But if this should fail, as we have assumed, he would see that to use them would be disastrous for a very simple reason: their employment would make any ensuing action all the harder to limit by making it vastly more destructive, more fluid, and consequently more unpredictable. In other words,

even a conventional assault upon a strong NATO central-front defence would result in a war of such dimensions that the aggressor must regard it as a poor risk. A nuclear assault would be a far poorer risk. In addition, assuming that the aggressor really had a limited objective he wanted to achieve, it seems rather unlikely (though it cannot be ruled out) that he would want to see the objective destroyed in the process of conquest.

Why, then, cannot NATO rely upon a nuclear defence and thereby get along with fewer troops? The reason has already been indicated. The aggressor might still make a conventional attack and thus defy the Western powers to take the responsibility for submitting Europe to the destruction of nuclear war. If they failed to make this stoic decision, he would have a good chance both of limiting the conflict and of winning by throwing his overwhelming conventional forces against their weak defences. If they *did* make the decision to use nuclear weapons, which he must of course follow, his force would still be overwhelming. But the decision to initiate the use of nuclear weapons would be most difficult for the NATO governments since it would offer Western Europe no military advantage to compensate for the immensely increased destruction and loss of life that would have to be anticipated.

This is why it is vitally important that NATO's local defence forces be increased in strength. A defence dependent upon the willingness and ability of the NATO governments to employ nuclear weapons in a war of unlimited violence lacks credibility. The aggressor may well believe, if this is NATO's only alternative to a limited setback, that NATO might yield him his limited objective rather than incur the risk of virtually unlimited destruction.

It seems clear, then, that a sound military policy for the Western alliance requires two efforts, each of considerable magnitude. We have already pointed out one, the essential and urgent tasks of restoring our strategic nuclear striking power. Hardly less important is it to rebuild and modernize – or rather 'futurize' – our own forces available for service in Europe which the present Administration has treated with even greater neglect.

Our allies, as we noted earlier, have done no better. For a variety of reasons, European governments have not raised and maintained in Europe the troop strength necessary to perform the deterrent function we have just outlined.

In this situation, if ingenuity could find a way greatly to increase the effectiveness of Western forces relative to Soviet forces, this would both increase the effective strength of the troops which could be raised, and, at the same time, increase the will to raise them.

The Line for Invention and Innovation

While one group of scientists, soldiers, and industrial establishments is working to restore our strategic nuclear striking power, we urgently need another group working in a wholly different direction. The latter should escape from the fascination of nuclear weapons and think of functions to be performed, of purposes to be served, before they think of weapons. They should not so much be seeking a lucky find, a wonder weapon, as a stream of invention, together with the totally new military tactics and strategy appropriate to it.

Let us illustrate a little more specifically how our NATO forces, which will still be inferior in numbers even after they have been strengthened as we suggest, could increase their effectiveness. . . .

For NATO purposes mobility requires the ability to move rapidly on the ground without being tied down by a heavy logistic 'tail' and without being confined to improved roads. It requires also the capacity to move men and supplies by air without the limitations and vulnerabilities that go with dependence upon prepared airfields. It should not be impossible to make both these capacities available. The technical devices are already available; what is required is the imagination and the determination to make use of them.

Increased firepower possibly lies in guided and self-guiding missiles. The technical problems may be great, but they are still not incapable of solution. With the need for these inventions by scientists and engineers goes the need for tactical innovation comparable to the blitzkrieg concept which, marrying armour, motorized infantry, and the dive bomber, gave Guderian his Ardennes victory over the French in 1940.

In the meantime, and for the foreseeable future, the need for greater close air support

controlled by ground forces is clear. This was demonstrated in the ground action in Korea.

Another tactic which has always aided an inferior force is the capacity to break up concentrations and the use of massed forces. This capacity is commonly attributed to the massing of firepower, but need not be the same. . .

Our problem contains another difficulty. The success of many innovations depends on the secrecy of their development. They come as surprises to an unprepared enemy. But for our purposes, it is important that the potential enemy should know and respect the strength of the smaller force. We want to deter an attack, not invite one. The function of the still-to-be discovered weapons is not so much to win a major test of strength in Europe, but to make the risk of starting one exceed any foreseeable gain. For this reason enough must be known about the strength of the new forces and weapons to evoke respect.

The Near East and Asia

The weapons which the United States needs for possible use by its own or friendly forces outside Europe are, we suggest, of the same character as those broadly described in the last two sections. The considerations which lead to this conclusion are closely related to those already mentioned.

Our purpose in the Near East and Asia is to support the development of independent and viable nations. Such nations are necessary to the environment of an open and free world. The greater part of our support to them must lie in political and economic action. . . . But these countries, along with others, exist in a world in which military power throws its shadow before it, and in which, as the unprovoked attack against the Republic of Korea demonstrated only too clearly, military force can be used for aggressive purposes. There is, therefore, a defence problem in the Near East and Asia which cannot be dealt with solely through political and economic measures. . . .

Again the changing nature of the nuclear relationship between the United States and the Soviet Union is fundamental to present and prospective defence problems in Asia as it is in Europe. When our nuclear position was such as to support a policy of active deterrence, this placed limits on the extent to which the U.S.S.R. or Communist China could push with military force against our interests in Asia. If we were to fail to maintain a position of nuclear parity with the Soviet Union, the situation would be reversed. There would then be definite limits to the support we could give countries on the periphery of the Soviet bloc even in defence against overt military aggression across recognized boundaries. Therefore, from the standpoint of Asian defence, it is mandatory, as it is in the case of European defence, that we do whatever is necessary to assure ourselves of continuing nuclear parity.

But even under the assumption of continuing nuclear parity, the defence problem of Asia is different from what it was in the days when we could rely heavily upon active nuclear deterrence. It is no longer credible that we would employ nuclear weapons in defence of the countries on the periphery of the Soviet-Chinese bloc in Asia except under the most extreme conditions, conditions indicating a Communist intention of making a general military assault against the West. Any such general assault initiated in Asia is, however, unlikely.

The more likely military threat to the Asian countries on the periphery of the Soviet-Chinese bloc is from military pressure in a limited area, and from forces employing non-nuclear weapons. The first defence against such pressure is from the military strength of the country directly involved. It is for this reason that military assistance to the countries directly threatened, such as the Republic of Korea, Formosa, Vietnam and Iran, is of continuing importance.

The second line of defence is United States air, sea, and ground forces quickly available, in adequate numbers and with appropriate weapons to give support primarily with non-nuclear weapons. Tactical nuclear weapons should also be available to our forces, but only for the purpose of deterring the aggressor from using nuclear weapons himself. Just as in Europe, it is hard to see how a war in Asia fought with nuclear weapons by both sides will give us any substantial military advantage. With limited port facilities and few airfields, we have more to lose than to gain by initiating the use of nuclear weapons on an Asian battlefield. Not only is there no probable military advantage to us in doing so, if such weapons are also used by our enemies, but also no political objective favourable to our side could be supported by

the nuclear destruction of countries we are trying to defend. Many have deluded themselves with the escapist thought that we alone have the capability or will to introduce nuclear weapons into an Asian battlefield. It is hard to believe that the Russians would in fact give us such an easy out in a period of nuclear parity.

It should further be pointed out that deterrence of military attack, although it must rest primarily upon relative military capabilities, does not rest solely upon such equations. There would be exceedingly heavy political cost to the U.S.S.R. or to Communist China if they were to launch a large-scale military attack upon any of the Asian countries. This does not apply to Quemoy and Matsu, where our support of Chiang's continued occupation of these islands is not believed to be supportable either on political or military grounds by much of Asian and of world opinion. But any military attack against other areas in Asia or the Middle East would have such heavy political costs that substantial local forces plus U.S. military backup on the scale outlined in the next section should go far to assure the defence of the areas threatened. . . .

Forces Needed and their Cost

Now for the specifics. As pointed out earlier, our first priority is to recover with all possible speed the position of parity in strategic nuclear force we are losing because of Soviet achievements in missile design and production. The present situation leaves us no sensible alternative but a crash effort to bridge the 'missile gap'. To this end S.A.C's aircraft and missiles should be given greater protection against the blast and heat effects of atomic attack, should be further dispersed, and should be given such active defence (primarily by anti-aircraft missiles) as developing technology makes possible. Also, the capacity of S.A.C. to support an airborne alert should be improved, with greater urgency than at present.

Three other immediate steps are also urgent: First, increase production of jet tankers required to reduce the dependence of our strategic bombers on overseas bases that are threatened by Russian intermediate-range missiles. (This would wring the last measure of benefit from our present manned-bomber forces before they finally become obsolete.) Second, double the combined Atlas-Titan missile production currently programmed, and increase the rate of production of these missiles; also reduce their vulnerability by increasing the dispersal and hardening of their bases. Third, do not terminate, but continue, development and production of the airborne cruise missiles (such as Snark and Regulus II). These weapons could be produced in large quantities, maintained at dispersed locations and made mobile, at relatively low cost. Though vulnerable to the enemy's A.A. missile defences and manned interceptors, they would increase his defence problem, particularly if they made their final approach to target at low altitudes at which the range of detection radars is short.

So much for the gap-fillers. For the next phase, the production lines for all the solid-fuel missiles that are in advanced stage of development – Pershing, Polaris, and Minuteman – should be laid out so that production may proceed promptly once the prototypes have been proved. (This was done in the case of the B-47 bomber, in the case of Atlas, and in other instances. It has cut at least two years from the cycle, design to use.) Also, mobility of these missiles should be stressed. At the same time the construction rate of the Polaris submarine should be increased. The development of the Nike-Zeus anti-missile missile should continue to be given high priority.

Added together, these new programmes will call for an impressive additional expenditure of about $4 billion more a year on our strategic forces. . . .

The Navy will increase its contribution to the strategic deterrent when its Polaris missiles and submarines become available. The Navy also needs strengthening in capacity for anti-submarine warfare because of the vulnerability of the United States to missiles fired from hostile submarines. . . .

Current programmes to increase carrier task forces for their contribution to the strategic deterrent cannot be justified in competition with alternative weapons systems. Money can be saved here to pay for the modernization the Navy urgently needs to improve its readiness. Consequently, major increases in the Navy budget, other than those for Polaris missiles and submarines and for stepped-up anti-submarine warfare capability, are not necessary.

The Army has suffered most grievously from

the neglect and blindness of the Administration. To modernize its currently authorized force of 14 active and 7 high-priority reserve (mainly National Guard) divisions the Army needs an additional $1.5 billion annually. This would provide no increase in personnel. But it is essential to make the most of the forces we now have: for example, by enabling the Army to re-equip itself over a five-year period with the new light rifle and machine guns, with the new and greatly improved armoured personnel carrier, and with the advanced communications equipment that has been developed. It also would enable the Army to purchase aircraft of better types for those functions for which it is now authorized to operate aircraft. It would, in short, enable the Army to reverse the present trend by which it grows steadily weaker year by year. This is the minimum necessary.

It is not enough. We need a larger Army, both to uphold our interests around the world, and to relieve us from intolerable dependence upon the threat of strategic nuclear action for deterrent purposes. Without this evidence of our determination it is surely useless to expect our allies to make the effort required of them, particularly in Western Europe.

To achieve these ends, to reverse the cuts which the Administration has made, and to provide the minimum force that the Army needs if it is to meet its responsibilities, will require an additional 225,000 men and an additional $1.5 billion a year. This will provide an Army of 19 divisions (total strength about 1,100,000) with eight divisions (instead of three as at present) in condition for immediate movement and employment overseas. Such an Army is essential if we are to adjust our military strength to the strategic revolution brought about by Russian maturity as a nuclear power.

To sum up these proposals in budgetary terms. In very general and approximate terms, the combined Air Force programmes (the gap-fillers plus the accelerated ICBM programmes plus additional air transports) would require a net annual increase in the budget of $3 billion. For the Navy an additional $1 billion would be needed annually. Army needs ($1.5 billion for modernization plus $1.5 billion for five more divisions) would total $3 billion annual increase. The entire effort would add $7 billion to the defence budget. If allowance is made, as it undoubtedly should be, for additional funds for research and development to meet the challenge of Soviet power with imagination, ingenuity, and innovation, then the forces we need would require additional defence expenditures for the next four or five years of approximately $7.5 billion annually.

Can We Afford such a Cost?

There can be no question of the capacity of our economy to support this addition to defence expenditures. We are currently devoting less than 10 per cent of our Gross National Product to major national security programmes, including Defence, the Atomic Energy Commission, and mutual security (foreign aid). During World War II we diverted almost 45 per cent of our then substantially smaller total product to war purposes, and yet our economy continued to grow all during the war. Economists of both political parties now agree that the American economy can and should grow about 5 per cent per year, *after* we have fully recovered from the recession, which is not yet the case. This growth would add to our total national production more than $23 billion a year as a starter. The diversion of one-third of this productive increment to the great priorities of national security would more than cover a $7.5 billion annual increase. The Administration's insistence that a balanced budget at current, or reduced, tax levels must come before the provision of essential defence needs indicates that new thought on the national economy is as essential as is new thought on the national defence. . . .

Harmonious Strategy

From the Frankfurter Allgemeine Zeitung, July 10, 1959

In this article Mr. Weinstein, a leading German military analyst, puts the case for the provision of more conventional forces by the Western European nations in order to give flexibility to the West's response to Soviet threats

(By permission of the *Frankfurter Allgemeine Zeitung*)

ADALBERT WEINSTEIN

FOR YEARS military thinkers have been nearly blinded by the atom. They have groped in the dark for the strategic concept that might fit a weapon of total destruction into the framework of military planning. Ever since Hiroshima they have pondered on the inroads atomic weapons have made on the art of war, and at last they seem to have achieved some understanding of their basic nature.

Technical advances in delivery systems, increased defence reliance on rockets, improved means of destruction – this is a spiral whose end cannot yet be discerned. Our defence budgets will still be burdened by unimaginable expenditures. Nevertheless, today it can be said that in all probability total weapons will not be used. Prometheus knows the secret of fire, but he will not light his own stake with it. Neither East nor West can afford the risk of doing without nuclear armaments, but from the military point of view the atom is a luxury because it is not usable in war.

This certainly holds true of strategic weapons. But even the tactical use of nuclear weapons is almost unthinkable. Theoretically it is, of course, possible to equip an army that retains mobility even after large areas have been subjected to nuclear attack. One might also establish a robot-like praetorian guard, which can continue fighting in the inferno of tactical nuclear explosions. But will this be the war of the future? All probability speaks against it. Certainly, tactics must be worked out for nuclear war, and training methods adjusted to such an eventuality, since otherwise the nuclear deterrent would not be convincing. But even units equipped with tactical atomic weapons serve the policy of deterrence and are not intended actually to prove themselves in combat.

Again according to theory, once atomic armament has reached a certain level a balance of terror is established. What can one do with more than 5,000 or 10,000 atom bombs? But such ideas are false. Technical developments cannot be frozen. The race for better weapons and better delivery systems will continue; and improved armament will demand new troops, new staffs, and new ground organizations. Already today, the real problem is no longer the manufacture of intercontinental missiles, but the construction of launching platforms and the training of units which can manage these giants.

But we should no longer permit ourselves to be confused by these aspects of strategy, which for years have contributed to the misconception that nuclear weapons alone would decide the next war. Such weapons are decisive only insofar as their existence helps to prevent war.

This means that deterrence through absolute weapons can only form one part of strategy. The concept of defence must also harmoniously include the conventional means of war. Just as a body is not all head, or all legs and arms, so strategy too must be considered as a complete organism with functioning members and nerves. But the West lacks such harmonious armament. It has perhaps too many total weapons; certainly it has far too few conventional ones. The theory which claims that armies and divisions can be replaced by rockets and atom bombs is false. This American idea has led to arid developments, which we do not necessarily need to copy, and which moreover reflect conditions that do not apply in Europe: the competition among the various services, the influence of industry and its ambition to produce the most modern weapons, the historically determined subordination of the soldier to civil authority, America's affinity for technology and automation, the tradition of expeditionary forces, the fact of being an island and thus lacking close contact with a possible enemy. All this has led to the Americans possessing extensive modern armaments, which still protect the United States today, but its European allies only to a limited extent. America can engage in the policy of retaliation; but in the subtle problems of day-to-day politics it has sometimes suffered defeat at the hands of Russia.

American armament expresses the psychological position of the nation. In the shadow of American nuclear preparations we must adapt our own defence effort to the European situation. It would be dangerous if over the years we were to develop an air-force concept for the defence of Germany, that is, place our trust in piloted or guided missiles and rockets. Of course, we should re-enforce the deterrent with medium-range, manœuverable missiles (to threaten the enemy strategically should lie within our means); but we must be able to counter the political pressure of 175 Russian divisions with our own conventional units. Presumably we can never expect to dispose of European armies which could be supplied strategically for longer than seven days. But the aggressor should have to count on the risk of vigorous defence for this period at least.

Such a strategic concept demands psychological detachment from the American attitude, and beyond that close technical collaboration among the European powers. European soldiers should correct the flaws of American and British thought with their own ideas, and formulate a doctrine which is at once American and European. In a global war we shall have to depend entirely on the atom; but political blackmail and limited conflict – which against all reason might lead to a third world war – can only be countered with a balanced military instrument which includes both nuclear and conventional weapons.

The Next Step

Disarmament and Nuclear War

Declaration by the Labour Party and the Trades Union Congress

Condensed from the pamphlet published on June 24 by the British Labour Party stating the Party's official policy on nuclear weapons and including the proposal for the formation of a 'Non-nuclear Club'

(By permission of the Labour Party and the Trades Union Congress)

SO FAR AS Berlin and the related questions of German reunification and European security are concerned, recent developments have confirmed our conviction that the best hope for a long-term solution lies in the kind of plan for disengagement which we have put forward. The first step in our plan would be the establishment of effective international control over the arms and armed forces in West and East Germany, Poland, Czechoslovakia and Hungary. It would be followed by the gradual withdrawal of foreign forces from this area, the reunification of Germany, a security pact guaranteeing the frontiers of the countries in the area and, ultimately, the withdrawal of Germany from NATO and of Poland, Czechoslovakia and Hungary from the Warsaw Pact. . . . We record our view that in spite of the lack of progress at the Conference of Foreign Ministers, a summit conference must be held.

An End to Nuclear Tests

Progress towards agreement on the cessation of nuclear tests has been more encouraging. . . .

Most important of all, the test suspension . . . has at last been accepted and no tests have been carried out by any country since last November. We strongly urge that this truce should continue, and that even if the negotiations should be prolonged none of the three Powers should start nuclear tests again. To do so, and thus to provoke a renewal of the uncontrolled race to perfect these horrifying instruments of destruction, would be a grave crime against humanity.

Our concern is all the greater because recent disclosures emphasize the risk that radio-activity may lead to untold suffering by generations yet unborn. According to the Euratom Commission the level of radio-activity in air and water has in recent years more than doubled in every country in Western Europe. The amount of strontium-90 deposited in Britain through rainfall has doubled in one year. Furthermore, it has now been accepted by the Medical Research Council that all exposure to radio-activity is potentially dangerous, and the greater the exposure the greater the danger. There is thus no 'safe limit'. That is why, if other countries were to break the truce a Labour Government would continue to observe it and would immediately initiate fresh negotiations for an international ban on all tests.

Clearly a three-Power agreement on nuclear tests by itself is not sufficient to ensure peace. It must be followed as quickly as possible by an all-round disarmament agreement. Already existing stocks of nuclear weapons, if used, could destroy humanity. Even without further tests more and more nuclear weapons can be produced by America, Russia and Britain. And . . . unless the powers now possessing nuclear weapons give them up, other countries will also claim the right to test and produce their own.

Multilateral Disarmament Main Objective

A test agreement alone, therefore, is not enough. Our aim must be not only to rid the world of nuclear and other weapons of mass destruction, but also to reduce all armed forces and armaments to levels which would make war impossible.

Recalling Russia's acceptance of the 1955 Anglo-French plan as a basis for negotiation, a Labour Government would press for stage-by-stage agreements to achieve the following aims:

(a) Major reduction of all armed forces to a figure substantially below existing levels;

(b) Corresponding reductions of all conventional weapons and of military budgets;

(c) The complete transfer of nuclear production to civilian purposes, to be followed in due course by the total abolition of all nuclear weapons and the con-

version of existing nuclear stocks to peaceful use;

(d) The abolition of the means of delivery for these weapons (bomber aircraft, missiles, submarines, atomic cannon, etc.) as an assurance that no clandestine stock of nuclear weapons can be used for attack;

(e) The abolition of all chemical, biological and other weapons of mass destruction;

(f) The establishment from the outset of a United Nations authority responsible to the General Assembly for securing the implementation of the disarmament treaty. This Authority must have appropriate rights, powers and functions, including safeguards against surprise attack, a monitoring system for the detection of nuclear tests, the continuous inspection of nuclear plant and facilities and of all military installations and military factories, and the right to exercise control over all military budgetary expenditure.

Further, we suggest that without delay Her Majesty's Government should propose the creation, by the United Nations Assembly, of a committee of scientists charged with the task of studying methods of detecting the existence of concealed stocks of nuclear weapons. . . .

The ultimate peace of the world can only be secured by an agreement of this kind, together with parallel agreements to achieve political settlements and remove the causes of tension. These must, therefore, remain our paramount objectives. . . .

We do not put forward our proposals for a general and drastic reduction of armaments as an empty gesture. The next Labour Government will lay them before the General Assembly of the United Nations, and we believe that they will evoke the support of the whole Commonwealth and of many other countries. But we must recognize the great difficulties which stand in the way. The mutual suspicions and fears which divide the Soviet bloc and the West are still very powerful. It is almost certain, therefore, that these negotiations will prove long and difficult. Moreover, since the negotiations are likely to be prolonged, we must face the grave risk that other nations, resentful of the monopoly of nuclear weapons at present possessed by America, Russia and Britain, will decide to go ahead and make their own.

According to the American Academy of Arts and Sciences, twelve countries now have the economic and technical ability to make nuclear weapons, and a further eight nations could achieve a nuclear weapons' programme within the next five years. It is a terrifying prospect for the future peace of the world. For there are two immediate results if any one of these countries were to begin testing. Firstly the atmosphere would be further poisoned; and secondly, any agreement by the present nuclear powers to cease testing would be undermined. Yet we can hardly deny these nations the right to follow our example. For all the arguments which prompted us to make our British nuclear weapons can be used with equal force and validity by the French or Chinese, for example, for producing their bombs.

We must therefore assume that if no agreement is achieved in the near future, and if nothing is done to halt the spread of nuclear power, the number of nations producing their own nuclear weapons will increase year by year. And each addition to the number will add a fresh and formidable obstacle to the achievement of multilateral disarmament. Already the French have announced that their first test will take place as soon as possible.

If France becomes a nuclear power, it would be very difficult for any West German chancellor to postpone for long a demand that his country should have equal status with France and Britain inside the NATO alliance. On the other side of the Iron Curtain there is evidence of similar rivalry, resentment and competition. The Russians – probably owing to an awareness of this peril – have aired the concept of a nuclear-free area in the Pacific. But this has not prevented the claim being made in Peking that China will have her own nuclear weapons by 1961.

The Case against Unilateral Action

It is with these grave perils in mind that we have to ask ourselves whether there is any further step that Great Britain can take to assist the cause of general disarmament and world peace. Those who believe in unilateral nuclear disarmament have no doubt of their answer to the question. They are sure that the greatest contribution Britain could make would be to announce that, as an example and a lead to the

rest of the world, we had decided to abandon unilaterally and unconditionally the manufacture of nuclear weapons and to destroy those we already possess. . . .

There is not the slightest evidence that, if we were to take this step, it would induce America or Russia to follow suit or in any way influence the policy of General de Gaulle or the Chinese Government. Moreover, if the abandonment of the manufacture of nuclear weapons by Britain were accompanied, as is often urged, by a ban on all foreign nuclear bases in Britain, this would be tantamount to a British withdrawal from NATO. Nothing could be more dangerous. Once this country ceased to give loyal support to NATO the alliance would almost certainly break up, America would withdraw into isolation, and Western Europe would be left wide open to Soviet pressure. At best European independence would be precariously maintained under German leadership and by reliance on an American threat of 'massive retaliation'. At worst the Western Community which we have helped to build since 1945 would collapse.

These are some of the reasons why, in our view, the policy of unilateral nuclear disarmament, involving as it would the break-up of the Western alliance, would not help the cause of peace but would gravely increase the prospects of war. In present conditions we regard it as essential that the NATO alliance should be maintained and that we should remain loyal and active members of it, providing our full contributions to its forces and accepting also our share of the risks involved.

A quite different proposal is the plan that Britain should by unilateral decision stop producing nuclear arms and should concentrate her defence effort on the building up of conventional forces, leaving the responsibility for the production of nuclear weapons entirely to the U.S.A. This suggestion has nothing to do with the moral arguments but is purely based on economic and military grounds by those who urge that Britain should nevertheless play her full part in NATO. As members of the alliance we should, of course, have to be prepared to play our part. Until all nuclear weapons are abolished by multilateral agreement their retention by the Western alliance is essential. The implication is that we would stop producing them ourselves and holding stocks of our own under our own control; in short, we would be placing ourselves in the same position in this respect as other countries in the West, such as Belgium, Holland and Italy.

It is impossible to assess in opposition whether any technical and military merits such a policy may possess are sufficient to outweigh its obvious political drawbacks. The fact that we are opposed to the policy of unilaterally renouncing nuclear weapons does not mean that the next Labour Government is committed to going on producing those weapons or to maintaining the perilously one-sided nuclear strategy on which the present Government depends. The next Labour Government must be free, in view of facts which are not available to a party in opposition, either to modify or to reject altogether the nuclear strategy and the defence priorities which it will inherit when it comes to power.

Meanwhile there remains the pressing problem of the spread of the bomb. This problem, as well as a hopeful way of dealing with it, was envisaged at Scarborough last October by Mr. Gaitskell:

> "It is a terrible prospect that nuclear weapons should come into the hands of more and more countries and governments, many of them, as has rightly been said, less responsible and more dangerous to the peace of the world. If it were really a choice, if we in government knew for certain that only our continuing to manufacture these weapons stopped this agreement which would finally freeze, as it were, the distribution of nuclear weapons to those two powers (U.S.A. and U.S.S.R.), I know my colleagues and I would regard that as a very powerful argument indeed, and I give that undertaking."

A British Initiative

Since Mr. Gaitskell used these words the danger has grown much more acute. We are convinced that the time has already come when the British Government should make its own attitude known and invite those nations which at present do not possess nuclear weapons but are capable of manufacturing them to consult with us on a common policy. The objective which the Government should set itself is an agreement, preferably under the auspices of the United Nations, signed by every nation with the exception of the U.S.A. and the U.S.S.R. Under

this agreement, each nation would pledge itself not to test, manufacture or possess nuclear weapons, and the agreement would be subject to full and effective international controls to ensure that it was carried out. The Government should be prepared to announce now that, if such an agreement could be successfully negotiated, Great Britain would not only cease the manufacture of nuclear weapons but would also deprive herself of their possession.

We emphasize that the agreement must be both comprehensive and effective. The whole justification for the abandonment by Britain of nuclear weapons would be to ensure thereby that no other country except the U.S.A. and the U.S.S.R., would have them. Therefore, we should have to be sure that this would be so.

A comprehensive agreement of this kind would provide a complete safeguard against the spread of nuclear weapons and thereby facilitate our main object – a multilateral disarmament agreement. But it would be unrealistic to assume that we could achieve it at a single step or in the course of a single conference. It might be that such a goal could only be reached by stages. Possibly the first stage would be a limited agreement for a standstill or moratorium on the development and production of nuclear weapons.

Each country which does not yet possess the bomb might, for example, agree for a specific period to proceed no further in their development and submit to inspection; and, in return, the British Government might announce its readiness to cease adding to its existing nuclear stockpile.

We do not deny that in taking the initiative in a project which, if successful, would leave Russia and America as the sole nuclear powers we should be making some sacrifice in power and influence. It was because of these considerations that the Labour Government decided in 1946 to make our own atom bomb, and that the Labour Party decided some years later to support the production by Britain of her own hydrogen bomb. But we hold that, in the circumstances and under the conditions we have laid down, this sacrifice would be abundantly justified in order to prevent the spread of nuclear production and the testing of nuclear weapons to more and more countries throughout the world.

In launching such an endeavour we should in no way be weakening in our support for the NATO alliance or in our readiness to accept American bases in Britain subject to the veto which already exists concerning their possible use.

The Gravity of the Peril

In putting forward this project for a British initiative we realize the importance of not tying the hands of a future Labour Government or committing them to any precise or detailed diplomatic plan. What is important at this stage is to bring home to both governments and world public opinion the gravity of the peril presented by the imminent spread of the bomb and the need to grapple with it as soon as possible.

In outlining the idea of collective action by Britain, together with those nations not yet in possession of the bomb, we do not wish to minimize the difficulties to be faced or the opposition it may well encounter from certain governments. Indeed, it might be said that if it is possible to obtain agreement for preventing the spread of nuclear weapons over the rest of the world it should be possible to get Russia and America to agree also. If so, all the better. Equally, however, it would be a grave mistake to write off the chances of success. Countries which have not yet started production of nuclear weapons may be more ready to desist from doing so if possession of these weapons is confined to America and Russia until world-wide agreement is achieved. It will undoubtedly be easier for other nations to give up the prospect of having nuclear weapons if Britain were prepared to put herself on the same level. We believe indeed that such a step would receive the support of the U.S.A., which has a common interest with the Soviet Union in discouraging the spread of nuclear weapons.

Britain, as the third nuclear power, has a special position and a unique opportunity of persuading those nations not yet in possession of the bomb to join with her in this collective effort. Above all, if this important step can be taken and the necessary international controls established, we believe that it would pave the way towards a comprehensive disarmament agreement, including Russia and the U.S.A., which, as we have already declared, must remain our supreme objective.

World-wide Capabilities for Production of Nuclear Weapons

HOWARD SIMONS

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This summarizes the report by three scientists who undertook, in 1958, a Study under the auspices of the American Academy of Arts and Sciences, to determine the capabilities of nations now lacking atomic bombs for producing such weapons, and to examine the possible controls that could be imposed to prevent their doing so. This study was unofficial and was made without access to classified information

NUCLEAR ENERGY programmes are being developed in many nations. Whether these peaceful efforts become part of, or give rise to, nuclear weapons programmes is still an open question. At least five bombless nations already have reported their intention of possessing nuclear weapons: China, France, Sweden, Switzerland and Canada. The last, Canada, has for the present disavowed manufacture in favour of 'imported' atomic arms. Still other nations have remained uncommitted . . .

A great deal of the world's developing nuclear technology so far has been directed toward the peaceful use of the atom. In this aim, those nations most able to further this development have helped others. Supranational organizations have been planned or established to engage in nuclear power development and research.

> In most of these arrangements in the non-Communist sphere [the *Report* points out] specific measures have been taken to prevent the diversion to military programmes. Though no information was available on the control programmes in the Communist countries, it is hoped that these too contain effective control measures to prevent military diversion.

Requirements and Capabilities

The line between open, peaceful, nuclear technology and bomb technology is narrow. The science upon which both technologies are based "represents the cumulative achievement of men from many nations over generations". The universality of basic phenomena underlies all considerations of the ability of countries to make nuclear weapons, as first the Russians and then the British demonstrated. For just this reason, evidently an atomic secret has a half-life, too. A 'classified' imprint on the basic principles of a Hiroshima-type atomic bomb would be more a testimony to past 'security' measures than to present reality. Except for some very important details of detonation design and isotope separation, good scientists anywhere may find in the open literature "all the basic facts they need" to embark on the manufacture of at least a 1945-model bomb.

On the basis of information available to us from unclassified sources what kind of fissionable material is needed to make a bomb, and how much? Of the isotopes of heavy elements

that can be made to undergo fission, only uranium 233 (U 233), uranium 235 (U 235), and plutonium 239 (Pu 239) possess the combination of characteristics required for weapons production. The following considerations led the authors of the *Report* to single out Pu 239 as the material most likely to be used by an nth country in the initial manufacture of nuclear weapons.

1. Plutonium is an unavoidable by-product in the production of nuclear power with natural or slightly enriched uranium fuels.

2. The cost and complexity of the installation required to produce plutonium are at present less than that required for the production of weapons-grade U 235 by separation.

3. France has decided to base her present development of nuclear weapons on plutonium manufacture.

References in the literature to the mass of fissionable material needed for a nuclear explosion give the amount as "about the size of a baseball", or "little bigger than a cricket ball", and "seven or eight kilograms". These estimates are roughly identical, the authors of the *Report* say, and through these and their own approximate calculations, they conclude that ten kilograms of plutonium is a reasonable amount of fissionable material to use when discussing the production of a twenty-kiloton (1945-model) bomb.

From the design to the weapon is a long, costly road strewn with obstacles. Help from others can introduce short cuts. Lacking these, the *Report* points out:

> The completely independent manufacture of nuclear weapons depends on a considerable industrial system which includes the following processes: mining and milling; refining; fuel element fabrication; operation of reactors or isotope separation plants; chemical and metallurgical processing of intensely radioactive materials; and bomb assembly. It requires a considerable overall level of economic, industrial, and scientific capabilities.

This should not suggest that the problems of manufacturing a plutonium bomb are insurmountable for any nation below the 'first-rate power' level. The contrary will appear to be the case. We now trace step by step how the *Report* evaluates the technical requirements and technical capabilities for bomb production.

Availability of Fissionable Material

To begin with, plutonium will have to be made by the irradiation of natural uranium, the only material that yields usable reactor fuel directly upon the chemical processing of the naturally occurring ores. Natural uranium is the fuel currently being used in the large reactors producing plutonium for weapons use at Hanford in the United States, at Calder Hall in England, at Marcoule in France, and presumably in the Soviet Union. Eventually, Pu 239, U 233, and enriched uranium can also be used, but these require either the previous operation of power reactors or the use of isotope separation plants.

Natural uranium is not a scarce commodity. If it were, the nth country problem might not exist. Important known deposits of uranium and thorium are fairly evenly distributed throughout the world. As of 1956, it was estimated that there were more than one thousand mines in some thirty countries. Certain industrially capable nations have no significant ore deposits within their borders, namely the Scandinavian countries, Austria, the Netherlands, Italy, Japan, Switzerland and Turkey. This is not a serious handicap, however. Under present world conditions these nations can count on buying ore from one of the large producers – Canada, the United States, the Soviet Union, the Union of South Africa, and the Belgian Congo.

Neither mining the ore nor milling and refining presents any serious problems. Mining and concentration are accomplished with conventional equipment and techniques. Milling is essentially a leaching process. Likewise, refining and reducing the crude milling-plant product to metal is achieved by fairly routine techniques using common chemical reagents. The production of thorium follows roughly the same general pattern.

There are two over-all programmes that can be developed for plutonium production: the one in which the plutonium is a by-product of electrical power production; and the other in which the plutonium production is an end in itself. The irradiation of the natural uranium by neutrons within a typical reactor produces both energy and Pu 239. The *Report* estimates that one hundred metric tons of natural uranium will have to go through such a reactor in a year to produce 20 kilograms of weapons-grade

plutonium, or enough for at least two nominal bombs.

A reactor used exclusively for the production of plutonium, where heat is generated at a relatively low temperature, permits the circumvention of many formidable problems that arise when the same reactor is being used to produce electrical energy. Plutonium production joined with electric power output also requires a more advanced national industrial development. On the other hand, where these more complex electrical power reactors exist – constructed independently of a weapons programme – they could be used for the production of weapons-grade plutonium as a by-product. Sweden, for example, by operating her power reactors for plutonium production could, by 1960, produce enough unprocessed plutonium for five or ten nominal bombs.

Installation Requirements

The construction of a reactor installation is beset by the same general demands as is any large industrial plant in the making (as machine and electrical shops, materials-handling and storage facilities), as well as those exacting requirements unique to nuclear technology (as the fabrication of fuel elements, heat transfer problems, the problems resulting from radiation). But reactors do not have to be home-made. Like uranium, they are available in the world market-place. Canada, the United Kingdom, the United States, and the Soviet Union, all are engaged in the export of reactors. There is even a marked degree of sales competition among them.

In the case of the non-Communist nations, most export agreements provide for peaceful reactor operation only, and include control measures to insure this end. There are exceptions, specifically the known military agreements between the United States and Great Britain, and the United States and Canada. Although neither of these agreements had yet resulted in the physical transfer of reactors when the *Report* was written, shipments of the necessary materials had been made. The *Report* notes further:

> In the Communist countries a military agreement is rumoured to exist between the Soviet Union and China, which has resulted in the transfer of four reactors of unspecified purpose and capability. In addition, other agreements for co-operation exist between the Soviet Union and other countries, but it is unclear from the references available whether these are military, peaceful, or both.

In addition to a reactor installation, whether built or bought, a chemical processing plant is also needed for plutonium production. It is required to treat the intensely radioactive fuel elements that must be periodically removed from the reactor to recover the fissionable material and to restore reactivity and chemical and physical properties to the fuel. The problems associated with the construction of a chemical processing plant are almost equal to those of reactor development: remote handling is necessary; extremely high recovery efficiencies are demanded (95 per cent is generally considered too low); much of the plant equipment must be leakproof and capable of repair and replacement by remote means; and the intensity of the radioactivity necessitates a rather large physical installation to accommodate protective shielding and protective distances. The processing plant for plutonium separation at Marcoule in France (producing about 110 kilograms per year) gives an indication of the scale of operation involved. The plant is 170 metres long, 37 metres wide, and 17 metres high. It contains 14,000 cubic metres of concrete and 34,000 tons of lead. It is estimated that its round-the-clock operation requires approximately 60 workmen and engineers.

A problem that arises at the end of the chain of chemical processes leading to weapons-grade fissionable material is the disposal of radioactive wastes. About one gram of fission product is obtained for every gram of U 235 consumed. In the production of 20 kilograms of plutonium, it is estimated there will be 28 kilograms of fission products. Currently, the bulk of these wastes or fission products is being stored in solution in large tanks. It is generally agreed, however, that the over-all problem of radioactive waste disposal remains to be solved satisfactorily, even for present volumes of production.

Although the *Report* dwells on plutonium production, in the belief that this is the most logical fissionable material for an nth country to use initially, there are other sources for a bomb ingredient. These are discussed in the following passages.

The separation of U 235 from natural uranium appears to be essential for a complete nuclear development programme, whether for peacetime or military uses. The operation of reactors using enriched uranium permits the use of light water moderators, longer fuel cycles and other advantages. The lower spontaneous fission rate of U 235 is at least one of the reasons why it is used in weaponry. However, the isotope separation plants to handle the quantities of materials necessary are a very major scientific and economic development....

An additional limitation on the construction of isotope separation facilities in additional countries is that, unlike power reactors, there is presently no active international programme for their development. They would therefore require a more completely independent design effort, and in view of considerable technical problems, this would limit their manufacture to fewer countries than are now planning power reactors. Another factor which would reduce the number of countries that would make isotope separation plants is the large amount of electrical power that is required. This power consumption, combined with the large scale of such plants, would also make their concealment difficult.

It should be mentioned that the French demonstrated a major exhibit on isotope separation at the Second International Conference for Peaceful Uses of Atomic Energy.

Another way to produce weapons material is by neutron capture in thorium to form U 233. For the conversion of thorium to U 233, Canada is now aiding India in the development of a large power reactor to be used in India where thorium ores are more plentiful than uranium. The basic steps in the manufacture of U 233 parallel those for plutonium manufacture, with Th 232 replacing U 238 as fertile material. It is reasonable to assume that the over-all costs would be about the same as for plutonium manufacture. However, the present state of reactor technology is less highly developed for breeding or converting to U 233 than it is for converting to Pu 239, and hence there may be unforeseen problems in economic large scale production.

Costs in Money and Man Power

So far in our review of atomic-bomb manufacture, we have been largely concerned with engineering considerations. But each of these considerations costs money. Nuclear-weapons manufacture is a high-priced luxury that few can well afford.

One can estimate the costs of a model weapons programme aimed at producing a few bombs. . . .

In estimating the costs of nuclear-weapons manufacture, a comparison was made between a straight plutonium-for-weapons programme and one joined to an electric power programme. At first look it might appear that the latter is cheaper – the total cost for producing twenty kilograms of plutonium over the initial five-year period would be approximately $90,000,000 for a weapons-grade programme and about $70,000,000 for a power-producing programme. But there are hidden costs in the latter that must be added to its total. In addition to some of those already noted, there is, for example, the price paid for minimizing 'poison'. When plutonium is produced by neutron irradiation of U 238, the same irradiation also converts some of the Pu 239 to Pu 240, which has a high spontaneous fission rate that can 'kill' the effectiveness of the plutonium for weapons use. To counteract this necessitates a more frequent processing of fuel elements, which requires serious modifications in design and higher operating costs.

In considering these costs, a nation is not entirely dependent upon its own budgetary considerations. Just as material aid is available, so too is financial aid in the form of loans and grants. The United States, for example, offered in the summer of 1955 to underwrite one-half the cost of research reactors, and by the end of 1956 Brazil, Denmark, the Netherlands, and Spain had received such grants. Similarly, the International Atomic Energy Agency can provide assistance for Agency-approved projects. These loans and grants, however, are designed to help in the development of peaceful nuclear energy programmes, and at present no military uses can be made of this aid.

Uranium ores, skilled technicians, financial resources, and impetus are still not enough to enable a country to undertake the manufacture of atomic weapons. It also requires high over-all levels of industrial and economic activity – and of talent.

Utilizing a limited set of criteria, the economic capability of thirty-seven countries was studied. The criteria chosen included: the estimated value added annually to the industrial product; steel production; annual electrical energy output; and indicators to determine the scope of

the chemical, machine, and construction industries.

A related estimate was made of the number and quality of trained scientists. It should be noted that a serious lack of available data hampered the efforts of the research team to evaluate world-wide scientific manpower (and points up the need for such an estimate). Despite this handicap, some manpower factors were evident, such as:

> The training of nuclear scientists has one property which should be emphasized. This is that much specialized equipment is necessary for almost all phases of the process. For this reason proper training can be done only at certain universities, and in any over-all evaluation, this must enter as a dominant criterion.

Who Can Make Bombs?

When all the aforementioned factors were taken together, the research team arrived at the following judgments.

1. Twelve countries are technically able to embark on a successful nuclear-weapons programme in the near future, most of them being highly industrialized and having either operating reactors or arrangements for obtaining reactors: Belgium, Canada, China, Czechoslovakia, France, East Germany, West Germany, India, Italy, Japan, Sweden, and Switzerland.

2. Eight countries are considered to be capable economically and fairly competent technically, although perhaps somewhat more limited in scientific manpower: Australia, Austria, Denmark, Finland, Hungary, the Netherlands, Poland, and Yugoslavia.

3. Six countries are probably economically capable, although more limited in industrial resources and scientific manpower, but it is not likely any or all could achieve a successful nuclear-weapons programme within the next five years: Argentina, Brazil, Mexico, Norway, Spain, and the Union of South Africa.

The other countries studied were judged to be not technically and economically capable of manufacturing their own nuclear weapons.

Controls

Up to this point, we have considered the possibilities of the production of nuclear weapons in many countries. That this production may happen, however, is no proof that it must happen. Unless each weaponless nation imposes the ultimate control – that of forswearing nuclear arms – some other means of effective and universal control will have to be found.

Controls require agreements and the technical means to effect them; the one is dependent upon the other. It is apparent that both must be world-wide in scope to be completely effective, and that they can best be managed through an international organization such as the United Nations or the International Atomic Energy Agency. The *Report* leans toward the latter as the logical agency for international control, although its sympathy is with any international body that can bring a halt to, or control, nuclear-weapons development. . . .

Many have lauded the promise of the Agency as offering "the best hope that has hitherto appeared of beginning to reduce or limit the anarchy currently prevailing in the weapons field". The *Report* agrees with this estimation, but tempers any over-optimism with the following reservations.

1. The Agency is powerless to place controls except when aid is given or a specific request for such controls is made (and neither had taken place at the time of the *Report*).

2. Unless an imaginative scheme for controls and inspection is worked out, some strongly nationalistic powers might baulk at Agency interference.

3. The high cost of controls, which must be reimbursed to the Agency, makes it presently non-competitive with what the major powers offer in bilateral agreements, thus eliminating large-scale assistance and concomitant controls.

4. It is still unclear to what extent the Soviet Union supports the Agency.

5. The People's Republic of China is not a member of the Agency.

Despite the above shortcomings of the I.A.E.A. – none of which seems unalterable – the *Report* describes it as "the kind of organization that can function effectively in preventing the emergence of new nuclear powers". There exists, the *Report* contends, in the Statute of the I.A.E.A. an outline of control measures, including administrative detail, that would be "sufficient to put into immediate effect an immediate halt on nuclear weapons development in the nth countries" where Agency help was being used. . . .

If one agrees with these considerations, there

can be little argument that the International Atomic Energy Agency offers an attractive foundation upon which the world can build both an effective control of nuclear-weapons programmes and, at the same time, an effective international programme for the peaceful use of nuclear energy. Also, it is relevant that the Agency does not have the problem of a veto.

Other International Agreements

In addition to the existing international bodies that might serve as reins on the Fifth Horseman, two other kinds of international arrangements may be considered briefly: bilateral agreements, and groupings of nations banded together to exploit the atomic nucleus for their common good.

Bilateral agreements involve a large segment of the world. The United States, Canada, Great Britain, and the Soviet Union, all have entered into bilateral agreements with other nations involving nuclear matériel. The United States alone, by the end of March, 1958, had signed forty-one such treaties with thirty-nine nations (including eleven agreements that allowed the transfer of power reactors and power-reactor materials). Concerning these bilateral agreements, the *Report* makes four significant points: (1) the controls written into the United States treaties embody a policy of insuring inspection so that fissionable materials are not diverted; (2) the transfers from all nuclear powers to other nations carry with them potentially dangerous installations; (3) the agreements contain no world-wide responsibility; (4) the existence of a choice of such treaties may cause a nation to play one nuclear power against another, and in so bargaining, demand and receive a weakening of the control mechanisms.

The second type of arrangement, that of international groupings, is widespread too. In addition to the I.A.E.A., seven other such organizations for nuclear research and development are in existence or are planned. . . .

For the present, most of these organizations are engaged primarily in research and the training of personnel, and are not included in the *Report* in the discussion of control. There is, however, one exception – EURATOM. This is a federal authority in western Europe similar to the European Coal and Steel Community. . . . Significantly, a means of control to prevent the diversion of fissionable material to military use . . .

> is present in the EURATOM agreement which is not specifically mentioned in either the I.A.E.A. Statute or the United States bilateral treaties . . . .

Evaluation of Technically Possible Controls

Perhaps the most meaningful finding of the nth-country problem study is the simple and sobering fact that technical controls to insure a halt to the spread of nuclear-weapon development are possible. Various methods exist, the *Report* states, "for providing all countries with additional assurance that others are not engaged in the clandestine production of nuclear weapons". These methods vary in the assurance afforded, in their cost and complexity, and in the "extent to which they promote or interfere with the non-military uses of nuclear energy".

Three such controls are discussed: a world-wide test ban; the control of fissionable material; and manpower and budgetary controls. . . .

The test ban. If nuclear-weapons tests became subject to an international ban, their cessation would present a serious obstacle to the undertaking of a new nuclear-weapons programme. It would not interfere with the production of fissionable material, nor could it prevent preparation up to the eve of a test, but "such a ban might well discourage a country from expending the money and resources required to stockpile a 'weapon' that had never been tested". A country would be unlikely, by the same token, to modify its military or political strategy on the basis of a weapon of uncertain characteristics.

The control of fissionable material. Several different approaches can be taken to insure that fissionable materials should not be used for weapon production. These include the use of Pu 240 to 'poison' or 'denature' weapons-grade plutonium; the use of monitors on the fuel elements to indicate what a given reactor is being used for; and a careful inventory of Pu 239 to baulk theft or diversion. Of course, any nuclear programme can be specifically designed to facilitate control; one possibility is to discard or control the storage or use of spent fuel elements, or to have them processed by an international organization. With safeguards, the

Report asserts, a nation would have to engage in a subterraneous operation to produce weapons materials; the size and scope of such an operation would make this attempt very unlikely. In addition, there are telltale signs in the form of energy release, in radioactive discharge, and in 'hot' wastes that sensitive measurements could detect.

Manpower and budgetary controls. It is also difficult to hide a large expenditure of talent and money. Both can be, and have been, hidden in the past. But the fact of international communication among scientists offers some indication of outward or secret activity in the nature of 'missing persons' at meetings and in journals and private communications. A detailed analysis of the budgets of countries could provide a similar indicator. The authors of the *Report* express the opinion that, although manpower and budgetary controls are limited in reliability, their value as both indicators and controls should be explored.

Some Conclusions of the Report

The *Report* comes to the following conclusions.

1. The physics of the pure-fission bomb is so widely understood today that a nation determined to manufacture a bomb would not have to hesitate for lack of basic scientific information.

2. The production of a few Hiroshima-sized atomic bombs is well within the reach of some ten or more countries.

3. The time required for such an achievement would be on the order of five years, at a total capital cost of more than $50,000,000, and a total yearly operating cost of about $20,000,000.

4. The time could be cut, for in travelling the road to an operational power reactor (and there is some reactor activity in forty-two countries) a nation is simultaneously covering one-half the distance to an operational plutonium bomb.

5. Because the process for the independent development of nuclear weapons is complex and time-consuming, there is little question that a "fool-proof system of controls could easily be designed" for such independent work.

6. There exists, today, in the Statute of the International Atomic Energy Agency, an outline of control measures adequate to halt the spread of the development of nuclear weapons to nth countries. . . .

Some Implications

. . . The nth country problem is not new. It was seen even before the world's first atomic dust settled, and it has been seen by many since. What is new is the proximity of a bad solution of the problem – the spread of atomic weapons.

As long as military strength is the obvious measure of the power of a nation, certain 'developed' nations will want to possess nuclear arms despite the moral, political, and financial cost. For some 'developing' nations the motivation could be prestige and pride in the guise of mid-century nationalism, that particular brand of vanity that demands the immediate overtaking of technologically more advanced countries. For some smaller 'developed' nations the motivation could be an honest belief in self-defence through atomic deterrence. And, although questionable, there is a school of thought on atomic weapons that considers the possession of a few bombs a necessary evil, an insurance against atom-armed aggressors.

For the above reasons and in the absence of a permanent international-controls programme to restrict the spread of nuclear weapons, the world is precariously balanced on a makeshift atomic-arms concept that is temporary, dangerous, and fluid. For example, there seems to be a certain feeling of assurance that as long as nuclear weapons remain restricted to the present antagonists there can be political control by the Big Two. However, once nuclear weapons pervade other areas, such as Asia and Africa, this assurance becomes questionable. There could be little doubt, for instance, that if Israel possessed an atomic bomb and her national existence were seriously threatened, she would use it. Similarly, Egypt might, if she alone in the Near East possessed atomic weapons, attempt to erase Israel. Even those nations that find it morally repugnant to possess nuclear arms today may be forced to ignore their consciences tomorrow. For example, if the People's Republic of China had atomic weapons, could India remain complacent? . . .

What Can Happen

Attractive as some of the arguments for a spread of atomic-arms possession can appear,

they seem to neglect some obvious, but perhaps less publicized, possible consequences of just such a distribution. A wider dissemination of nuclear weapons can have a variety of grave results – accidental atomic war, demagogic atomic war, nuclear blackmail, or, at the least, a far greater difficulty in obtaining controls programmes or disarmament.

Accidental atomic war can result from a true accident in which a home-made bomb explodes and a suspicious neighbour is blamed, or it can result from the independent action of a field commander, or it can result from a premature military estimate.

Demagogic atomic war can result from the machinations of an 'irresponsible dictator', or from the calculated risks of a 'responsible dictator', or from a falling dictator's last attempt to maintain power.

What appear to be the precursors of more concrete attempts at nuclear blackmail have already been tried twice. The first occasion did not involve atomic weapons, but the alleged production of atomic energy. On March 25, 1951, Juan Perón announced that Argentine scientists had produced atomic energy. The totally fabricated announcement was made on the eve of an Inter-American Foreign Ministers Conference and there is evidence that the Argentine dictator's pronouncement was made to impress, if not threaten, the delegates to the Conference. The second occasion was the Soviet Union's threat to rain rockets upon England and France, presumably with atomic warheads, unless these nations ceased their action in the Suez affair. This threat appears to have played a part in the decision to withdraw.

If agreement on controls is as difficult as the recent exchange of charges and countercharges during the Geneva discussions indicates, we have a measure of the appalling difficulty of the problem if a larger number of nations were involved in control negotiations. By the same token, manpower and machinery for inspection controls increase with the addition of each new member to the 'atomic club'. If this is not too much of a burden, the concomitant and very difficult problem of expanded stockpiling may well be. This latter dilemma is discussed in the summary of *The Nth Country Problem Report* as follows:

> Briefly, the big difference between nth country controls, and the chief problem of controls for the nuclear powers is that in the case of the nuclear powers, the problem is one of finding existing weapons – generally small and concealable objects – while in the case of the nth countries, the problem is one of finding huge industrial plants, run by many hundreds of employees. At the same time, one must not fail to realize that controls for the nth countries will be more difficult to achieve than present Soviet-American controls once weapons have been developed and stockpiled, for the problem will then be that of finding a needle in many 'sovereign haystacks', instead of just two.

In considering the above-mentioned dangers, it seems fair to say that they have received far too little attention or debate in the public forum. This is not to intimate that they have been totally neglected. They have entered into the formulation of those few bold and imaginative schemes aimed at ameliorating the potential thread of world atomic suicide. One of these schemes, which appears to be gaining news space if not some favour, is that championed by George Kennan – disengagement. Just as there are those who call for the nuclearization of certain world areas, there are those like Mr. Kennan and Sir Stephen King-Hall who call for the denuclearization (as a part of disengagement) of certain world areas. Commenting on these views, Raymond Aron says:

> I do not deny the dangers which would arise from such a distribution of atomic armaments. But what other prospect is there, once disarmament is ruled out? The one proposed by Mr. Kennan: a renunciation of atomic armaments by every state except three, coupled with a decision, in particular on the part of the European states, to oppose Soviet power by the threat of national resistance, passive or active.
>
> The European 'home guard' idea put forward by Mr. Kennan echoes a similar proposal by Commander King-Hall. In the long run this is perhaps one of the paths to salvation open to humanity. But I do not believe that for the time being the European democracies can or should make the choice recommended to them.

Significantly, the grave results of a wider distribution of nuclear weapons have not gone unnoticed even by those who advocate the use of nuclear weapons when and if the need arises. In discussing these same dangers, Henry A. Kissinger, who only recently called for the "creation of a Western European atomic force",

noted in his book, *Nuclear Weapons and Foreign Policy*:

> This is not to say we should be complacent about the prospect of a world armed with nuclear weapons. The possession of nuclear weapons will create tense situations among the secondary powers themselves, and acts of desperation against stronger states, while militarily inconclusive, may set off a cycle of violence difficult to control.

Nor have they gone unnoticed by those who are in search of alternatives to a nuclear war of any dimension. Raymond Aron, in his essay, 'On War', commented on the possible arrival of Mr. Dulles' 'unhappy world':

> This first enlargement of the atomic club will not perceptibly increase the probability of an explosion. The rulers of Europe will calculate the consequences of their actions more or less as the United States and the Soviet Union have done. However, the more numerous the states equipped with nuclear weapons, the greater the possibility, mathematically and inexorably, of insane decisions, and the further away the prospect of international agreement. How can we expect rival states to agree if allied states cannot bring themselves to share secrets (which are no longer secrets)?

M. Aron offers this succinct comment in conclusion: "One fact seems almost certain: the possession of nuclear weapons by the majority of states will make us long for a return to the bipolar system."

The balance between the dreadful and the hopeful results of a spread of nuclear weapons beyond the present nuclear powers leans clearly to the former. The latter seem based in a large measure on nationalistic, short-range military considerations. But alliances change. Friends become enemies. Both the United States and the Soviet Union cannot help knowing all this, cannot help seeing a loss of their ability to control things if atomic weapons are made or imported abroad. Other nations cannot help noting these factors too, and one wonders whether or not these other nations might privately desire a path to escape honourably from the internal and external pressures to possess nuclear arms.

The world and its people have become preoccupied with 'warning time' about so many of the problems of today, it would indeed be doubly tragic if when ample alarm has been sounded, the result should be a failure to do something about it. The nth-country problem is not an accomplished fact. Something can be done about it. This, coupled with the potential horrors that can result if the problem is left to develop, must be evident to the nuclear powers. Here, perhaps, is the main incentive to the antagonists to get down to a quick discussion of these problems, a step toward the realization of a mutual interest in decelerating the weapons race.

Has the Soviet Challenge Changed?

LOUIS J. HALLE

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Louis J. Halle, formerly a member of the State Department's policy planning staff, now teaches at the Institute of Higher International Studies at Geneva. In this article he suggests that a number of changes have occurred in the nature of the Soviet challenge, including the abandoning of either world revolution or world conquest as a practical objective
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THE HISTORIC contests among societies differ from such games as chess in that all the pieces on the board are in a state of constant transformation, changing their identities like characters in Alice's Wonderland. Where a conflict between two societies lasts a generation it is no longer the same two societies that are in conflict.

We commonly disguise these transformations, hiding them from our own knowledge, by a fundamental device of human logic. We give things names that do not themselves change, thereby creating an unchanging nominal world which we substitute in our thinking for the world of reality. This provides us with a basis of stability, however unreal, on which we can form fixed views and formulate standard responses. France is forever France and China, China. Communism, spelled the same today as when the Communist Manifesto appeared in 1848, is manifestly still Communism.

But the stability of the nominal world is constantly threatened by changes in the real world which, in their cumulative development, become increasingly hard to deny. In the years after Stalin's death all of us debated the question whether any real change had taken place in the nature of the Soviet challenge. The widespread anxiety among us to deny it was exceedingly human. Like a football team trying to keep up the old spirit, we urged one another not to be taken in by smiles or soft words from Moscow. We repeatedly announced that there was no evidence of any change. We repeated, until it became ritualistic, the statement that Moscow, however it might have changed its tactics, had not renounced its objective of world revolution. Since the foreign policy which we had established after long and strenuous efforts had been entirely a response to the Soviet challenge as manifested under Stalin, the alternative to such an insistence on the changeless nature of the challenge might have been to see the bases of that policy crumble. This was, and it continues to be, our real and understandable fear.

I do not suppose that the Soviet society underwent any abrupt and fundamental change on the date of Stalin's death. But fundamental changes have been taking place continuously, as in every society, so that the question for us to ask is rather *what* than *whether*.

Marxism, like other ideologies, originally based its programme on a complex of predictions implicit in the structure of dogma formulated by its prophet. As is always the case, the actual events of history failed to confirm the predictions, thereby compelling the heirs of the prophet to change the programme, to make shift in ways that had been totally unanticipated and for which there was no authority in their scriptures. I shall mention here two fundamental expectations of the Communist fathers that the actual experience of history has now disappointed, and I shall suggest the revolutionary (or counter-revolutionary) consequences.

The first expectation to be disappointed was that the proletarian masses everywhere would come to side with international Communism against their capitalist rulers and accept the leadership of the Communist élite. Under that leadership they would at last rise up of their own will to overthrow capitalism and, with it, all the sordid apparatus of national states, imperialism and militarism. This looked plausible enough in the middle of the last century, if one projected in a straight line the social develop-

ments which could be observed in that period. It was plausible in terms of the extrapolation of those developments. But the history which has since elapsed has not, in fact, followed this predicted course. Instead, in the great industrial countries capital and labour have tended to resolve the class struggle and have increasingly reached an accommodation that has satisfied the welfare and self-respect of labour. The sharpness of the class-distinctions has tended to disappear, and this has made capital and labour allies in their opposition to the would-be leadership of the Communist élite. Instead of becoming more revolutionary, the working masses have in fact become anti-revolutionary.

This failure of a fundamental prediction is, perhaps, more evident today than it was in 1917, when what was supposed to be the first stage in the world revolution was inaugurated by the Bolshevist seizure of power in Russia. Today, however, it is clear that the Communist movement has not been able to win the allegiance of the world's proletarian masses. And even to maintain their rule in Russia the putative representatives of the people have had to depend on measures of brute force that, as an abiding feature of their new society, had not been anticipated.

Stalin met the failure of the prediction to come true by imposing his personal dictatorship inside Russia. He was slower to recognize like requirements for the spread of Communist rule to other countries; but there is every reason to believe that, well before his death, he had come to see that the peoples of the world, proletarian or otherwise, would not voluntarily accept the Communist prescriptions. Consequently, Communist rule could be spread beyond the Soviet Union only by the Red Army, in support of whatever successes of sabotage and subversion might be achieved by Communist agents in each country. If the masses would not respond to the Communist leadership of their own accord, then they would have to be conquered. The unexpectedly overwhelming defeat of the Communists in the Austrian election of 1945, and the failures of Communist subversion in Italy and France during the winter of 1947–48, must have helped teach a lesson that had already been implicit in the Russo-Finnish War of 1939.

The other expectation of the Communists, which history has disappointed, existed primarily as a tacit assumption. Since, in Marxian doctrine, all the workers of the world are brothers, national divisions being merely the contrivances of their class enemies, all the societies resulting from the Communist revolution must share a harmony of purpose and policy. Any society captured by the international Communist movement would naturally be an ally of the Soviet Union (even after the Soviet Union had resumed, under Stalin, the trappings and regalia of a national state). It would be in Moscow's camp, loyal and valiant in the struggle to overcome Moscow's enemies. Apparently nobody before 1948, on either side of the Iron Curtain, gave much thought to the possibility of such a thing as the development of national Communism outside of Russia. Then Tito's Yugoslavia demonstrated the fact that Moscow could not count on the implicit obedience or co-operation of any independent state, beyond the effective reach of the Red Army, simply because it was Communist. It demonstrated the fact that such a state might put its own nationalism first.

The implications of this demonstration, in terms of the Communist world that was originally projected, seem to me immense. It put in question all the hopes that Moscow had once attached to the prospective enlargement and eventual universalization of the Communist world. Appreciating all the implications of this lesson, Moscow today might well prefer a neutralized and non-Communist Austria to a Communist and potentially 'Titoist' Austria; it might prefer a Finland to a Hungary as its neighbour; it might in time come to wish that the Communist revolution had not occurred in China; and it is not inconceivable that the thought of a Communist United States would occasion nightmares in the Kremlin. If the world were Communist, there is no reason to believe that its capital would be Moscow – even if it did have only one capital.

When the nature of the Communist challenge is discussed today we still tend to repeat that Moscow has not given up its objective of world revolution – just as if a proclamation to that effect was what we were waiting for. But I should suppose that Moscow has in fact given it up as a working objective, however much its spokesmen (no less dominated by the nominal world than we) may still, occasionally, give lip-service to it. I should suppose that the question

for us to ask now is whether Moscow has, as an alternative, set itself the objective of world conquest.

I suggest that the answer to this question too, in terms of the working objectives of the men in the Kremlin, is no. Opinion varies on the weight of the burden that the indefinite control of the restive satellite populations puts on Moscow. Perhaps the burden is still far from capacity. Perhaps Denmark and Sweden could be added to it; perhaps Norway and Holland; perhaps Italy and France; perhaps the British Isles. But somewhere there must be a limit and, in any case, the prospect of such an empire, seething with rebellion, must seem quite different from that prospect of spreading revolution by the masses themselves which Lenin and his associates looked forward to in 1917. It must give the military and political chiefs in the Kremlin pause. And today, if they were offered the choice of a satellite France or a France on the model of Finland, perhaps they would choose the latter. A commanding position in the world might seem more attractive than the direct ownership of the world.

Has the nature of the Communist challenge, then, changed? I suggest that it has, and that one of the changes is the abandonment of either world revolution or world conquest as a practical objective.

The bulk of the evidence indicates that, when Stalin's successors took over, they looked at the empire he had bequeathed them and found it already over-extended. Like the Emperor Hadrian coming into his inheritance in 117 A.D., they decided that the time was ripe, not only to stop the expansion, but for retrenchment and consolidation. They thereupon gave up Austria, which Stalin had been trying to capture; they gave up Yugoslavia; and they took steps in the direction of restoring the independence of Poland and Hungary. They went too far too fast, and when what was intended as a limited retreat threatened to turn into a total rout they had to abandon it.

If these suppositions are correct, then the objectives of Moscow today represent a continuation of those Russian national and imperial objectives that may be traced back at least as far as the beginnings of Muscovy in the twelfth century. They represent this rather than the anti-nationalistic, anti-imperialistic and revolutionary objectives which Lenin, Trotsky and Company had set themselves. They are the old objectives of achieving security for Russia by pushing back the hostile military powers that have always surrounded her. In the long historic course of pushing those powers back, the territory under Russian control has at last expanded to its present inordinate dimensions. And still the drive continues, now taking the form of opposition to NATO bases in Turkey, Greece, Italy, Scandinavia, West Germany and other parts of Europe.

Such an objective, though far from being the same as that of world conquest, implies unlimited expansion, since Moscow can never reach the point of full satisfaction. It must always be impelled to extend still further the area from which it can exclude threats to its security. Therefore, Russia's neighbours must, in the future as in the past, be strong to resist. But the problem that is posed for them, as for Moscow, is a familiar one. It is the old problem of establishing a stable equilibrium of forces and a *modus vivendi* which provides at least the minimum of security that each side must have in order to accept it. This requires a sober and peaceable, but a firm diplomacy, backed by adequate force and determination.

There is reason to believe that it is such an equilibrium as this that Premier Khrushchev and his associates are aiming at today. Such an equilibrium as this is also a proper immediate objective of our own Western policy. But, even though both sides alike wish to achieve it, it will not be easy to achieve, as the present difficulties over the status of West Berlin show.

And we must recognize that when it is achieved, if we can look forward to such a day, it will still not be achieved. For nothing is final in a world of societies that must continue to undergo transformation. When it is achieved as it only can be achieved, tentatively, then we may continue to hope for and even promote, within limits of prudence, the progressive mitigation of the tyrannies under which the satellites suffer. When it is achieved we must still be prepared for that continuation of competition in the sphere of economic and political rivalry which our opponents refer to when they talk of 'co-existence', competition which confronts us with a challenge that, within reasonable bounds, we would do well to accept as legitimate. And, when it is achieved, its maintenance will still depend on our ability to keep up our strength.

The Doctrine of Aggression in Doses

Lt.-Colonel V. LARIONOV

From Red Star, July 8, 1959

A Russian review of Mr. Henry Kissinger's Nuclear Weapons and Foreign Policy *which was published in Russian by the Publishing House of Foreign Literature in Moscow in* 1959 *over two years after its original publication*

SINCE THE United States of America lost its monopoly of nuclear weapons, and with the appearance of such long-range weapons of mass destruction as the Intercontinental Ballistic Missile, it has become obvious that no aggressor can launch a global war without receiving fearful punishment, wherever he may be. This has greatly disturbed the imperialists, with the result that they are trying to find a way of propping up their crumbling system by means of a war which will not involve them in a retaliatory blow.

Henry A. Kissinger's book, *Nuclear Weapons and Foreign Policy*, provides the clearest example of this search. Its author tries to work out for Western statesmen and strategists a scheme for the piecemeal recovery of imperialism's lost positions by means of limited wars, or 'local wars', as they are called, without launching an all-out nuclear war.

It must be stated that this is not the first time that this question has been discussed in the Western press; in the United States particular significance has been given to a solution of this problem. Indeed, a few years ago an authoritative committee was set up there for this purpose. Dr. Kissinger's book is based on research conducted by this Committee over a period of one and a half years. . . .

One would think that in present circumstances, when the launching of an all-out nuclear war threatens imperialism with destruction, the most sensible foreign policy which the United States could follow would be negotiations and peaceful co-existence with the countries of the Socialist camp. But Dr. Kissinger decisively rejects this policy. He writes: "We must, of course, continue to reject the conception of peace 'at any price' for the future."

At the same time Dr. Kissinger criticizes American statesmen and strategists who believe in the doctrine of 'all-out nuclear war' alone. He considers this outlook not only lacking in intelligence, but too direct. The author of the book therefore suggests a reorientation towards a strategy which will bring better chances for success in foreign policy. Pressure brought by the threat of all-out war paralyses it for the purposes of foreign policy. He suggests using the new balance of forces, which is not now in the favour of the United States, as a basis for working out a doctrine of limited warfare. Nevertheless Kissinger does not completely reject the idea of an all-out nuclear war, but keeps it, as he put it, in reserve. The main thing, according to Kissinger, is to seize the initiative in launching local or limited wars.

Limited warfare is represented in Kissinger's book as an armed struggle in a limited area, as far as possible, preferably, from the North American Continent. To each area, American statesmen and strategists should serve out an appropriate 'dose' of the armed might of the United States calculated on the basis of the amount needed to bring success, without overstepping the limits beyond which an all-out nuclear war – which would destroy the whole capitalist system – would follow. True, Kissinger feels that the exact amount of aggressive power would be difficult to calculate. Therefore he suggests to his leaders to take risks which would be ultimately justified by the possibilities of success. He says that the risk can be reduced by a number of circumstances in the international situation. As he sees it, tactical atomic weapons, or 'clean' atomic bombs, as they are called, should be used in such a war. In connection with this the author writes: "The main emphasis in negotiations on disarmament should be shifted from the banning of nuclear weapons to the lessening of the effects of their use."

As can be seen, the American imperialists do not reject any means in their drive towards world domination. Dr. Kissinger, a mouth-

piece of these circles, is not particularly sensitive in his choice of the methods and means to be employed in his aggression in doses. He declares openly that the armies of the West European allies of the United States and other members of military pacts should fight limited wars in the interests of the United States, while American would supply them with tactical nuclear weapons. According to Dr. Kissinger, in the event of a threat of all-out nuclear war, all the allies would come to the help of the United States, while in a limited war a small country – a member of a pact – could deal with an enemy with its own forces. He tries to convince the allies that limited warfare would not only be without danger for them, but even necessary, because they have neither the strength nor the means to launch an all-out nuclear war and to carry it on without the participation of the United States. In the event of the 'dose' of aggression proving too small, America would undertake in the future to take the initiative in her own hands. The author speaks openly on this point: The U.S.A. must create "a situation abroad in which the interests of other countries will become a factor of little importance". As is well known, it is on this point that the main disagreements between the American leaders of NATO and their West European partners are to be found. Dr. Kissinger knows well how deep these differences are. Therefore he also seeks ways of surmounting them. His solution – a typically American one – is to persuade America's allies to adopt a common aim, and he believes that it is possible to do this only when the United States has won complete domination over its partners. He writes: "The best way of finding a common aim is to occupy the leading role which will not allow wavering based on fear, or evasion. The price of our strength is leadership."

Kissinger throws into relief the lack of respect with which the United States deals with its partners in NATO and other aggressive pacts. While suggesting the supply of tactical atomic weapons to the West German army for the purpose of waging limited war, the author warns on the need to keep strategic nuclear weapons in the hands of the United States. It is not difficult to see that strategic nuclear weapons represent a trump card in the hands of the United States with which the latter can frighten its allies with the threat that in the last resort their defence depends completely on their senior partner.

In concrete terms he suggests the following: To prepare special forces and to create an organization within the armed services divided between what is needed for 'the small' (wars) and 'the great' (wars), to take risks boldly in foreign policy aiming at the creation of 'deadlocks' in various parts of the world. He also suggests that the United States should undertake a special political programme in colonial countries, through which the "blot of colonialism" could be removed from them, or to put it more simply, to blunt the vigilance of the colonial and dependent territories, and to disarm them in their struggle against American imperialism.

Kissinger admits that a great obstacle to the successful carrying out of these political and military steps is the world movement of the partisans of peace, and its standard-bearer – the Soviet Union. He openly declares: "We could of course ignore the world movement for peace and its policy, on the pretext that it is mere propaganda, but this would be extremely dangerous."

What then are the basic military and political undercurrents of Kissinger's doctrine of aggression in doses?

First of all, there is the fear of losing more than has already been lost as a result of the historical development of human society towards socialism and peace. The fear of the inevitable nemesis which would follow the launching of an all-out nuclear war drives this strategist towards the idea of limited war which could be waged by a small professional army without involving the broad masses of the people to whom war is hateful.

Secondly, this doctrine expresses the inclination of certain circles in the United States to fight their battles by proxy, that is with the armies of their allies. On this point Kissinger does not mention that in a limited nuclear war, countries like the United States would have to mobilize only a part of their military might, while America's allies and the small countries against which this type of war would be launched would have to bring to bear their entire economy and all the resources of the nation.

In the third place the doctrine has a clear anti-Soviet concept. This is visible in the author's own statement: "If a limited nuclear war is a favourable development for us, this means that it is unfavourable for the Soviets."

A New Member of the Nuclear Club

RAYMOND ARON

From Le Figaro, August 14, 1959

In this article, M. Aron, who is Professor of Sociology at the Sorbonne and a member of the International Advisory Council of the Institute of Strategic Studies, explains the motives behind France's determination to join the nuclear club

(By permission of *Le Figaro*)

FRANCE'S DECISION to manufacture nuclear bombs was taken under the Fourth Republic. Foreign commentators should therefore refrain from talking about present 'politics of grandeur', and French writers should not be suspected of political ulterior motives when they attempt an objective analysis of the significance of the French development.

To French public opinion the explosion of the first atomic bomb in the Sahara will undoubtedly appear as a success. We need only leaf through the daily papers to realize to what an extent considerations of prestige are here being combined with concern for power. Frenchmen are overjoyed that their scientists and technicians have shown themselves equal to those of other countries.

This emotion is normal, inevitable, and legitimate. Nevertheless it should not be carried too far, since it can easily rebound on France. After all, why shouldn't this country – at a price – be able to travel the road which was opened up by Russia, the United States, and the United Kingdom? American scientific publications grant the ability to construct nuclear devices not only to France but to some other nations in Europe and elsewhere as well. Nor should we forget that France is at the stage of Hiroshima (a bomb the equivalent of several thousand tons of T.N.T.), and not at that of the thermo-nuclear bomb (several million tons of T.N.T.) or of the miniature bomb (some hundred tons of T.N.T.)

The usefulness of large atomic bombs, of the type dropped on Hiroshima, is dependent on the delivery systems available. The explosion of the first French bomb will therefore have more symbolic than actual military value. The striking force which General de Gaulle wants to create requires supersonic bombers (which will not be operative for another two or three years), and after that intermediary range ballistic missiles. A basic striking force of several dozen atomic bombs and an equivalent number of bombers and ballistic missiles will be available within five years. Will that force be worth the two or three thousand million francs which must be spent annually to create and maintain it?

Personally, I should say yes. But let me first dispel some illusions. The Suez Campaign in November, 1956, did a great deal to convince our leaders that nuclear armament was indispensable to France. This understandable reaction is however open to certain obvious

objections. Second-class powers, whether or not they possess atomic bombs, cannot launch a military operation if the two great powers disapprove of it: in October, 1956, the United Kingdom disposed of atomic and even thermo-nuclear bombs. Furthermore, the problems facing France in North Africa and Black Africa are not sensibly affected by atomic bombs, even if we admit that their possession enhances our scientific and military prestige. A nuclear striking force is only meaningful in the context of East-West rivalry – either as the supreme defence against blackmail or aggression, or as a diplomatic trump in our dealings with our allies.

A nation always stands a good chance of escaping war if its armaments are of such strength that to overcome them even a major power would have to use means and accept sacrifices that appear out of proportion with the gains. Swiss neutrality has been guaranteed by an army whose strength would have raised the cost of an invasion above the benefits gained from it. Let us suppose that a small atomic retaliatory force could place some bombs on target: the aggressor will hesitate, not because he doubts his eventual victory, but because he would not risk the possible punishment which this might entail.

For the time being, an Anglo-American striking force guarantees French and European security. It will continue to do so for the next years. But as United States territory becomes more vulnerable to bombing, Russia will find it harder to believe in the American resolve to use thermo-nuclear retaliation to help their allies. Total war is so monstrous that even the United States will be hard pressed to convince Russia that they are prepared to accept enormous destruction to others and to themselves.

Obviously, it would be cheaper for France, as well as preferable to the Atlantic Alliance, if this basic difficulty could be overcome by common decisions, and by the sharing of nuclear armament among the partners of the alliance on principles acceptable to all. But it must be acknowledged that French production of atomic bombs is more helpful in stimulating the sharing of knowledge and of equipment than the most eloquent pleas have proven to be.

The weakness of the French position rests in the lack of a conception that goes beyond the wish for power or for prestige. The more we give the impression that we aspire to become the Fourth World Power, the more world opinion will turn against us. That doesn't matter, neo-nationalists will answer: major powers are never popular. But the worst that can happen to France is to bear the inconvenience of greatness without possessing its reality. The same arguments that justify the French bomb will tomorrow justify those of Germany, Italy, Switzerland, and of others. Just as today the United Kingdom cannot officially oppose a fourth member of the nuclear club, so tomorrow the French government will have to accept a fifth, sixth, and seventh member.

This is no argument for renouncing atomic armament, but it certainly is a reason for presenting it as part of a doctrine valid to the entire West. In fact, our national interest demands that France interprets the production of atom bombs as a matter which is neither one of glory nor one of pure selfishness.

Is Gas a Better Defence than Atomic Weapons?

Captain B. H. LIDDELL HART

In this article, Captain Liddell Hart suggests that modern chemical weapons would have considerable advantages over tactical atomic weapons in the defence of Western Europe

WESTERN DEFENCE has become increasingly based upon, and thus committed to, the use of tactical atomic weapons. The commitment started from the decision in 1954 to equip the NATO forces, ground and air, with weapons of this kind. The fateful decision was taken on the advice of the military heads of S.H.A.P.E., following their conclusion that such weapons would counterbalance the Soviet Army's superior number of troops – and were essential to give the NATO forces a chance of checking it.

But since then the Russians, too, have developed tactical atomic weapons. So it is no longer possible to count on the NATO equipment of this kind as a counterbalance to the Russians' superior numbers. It is also very doubtful whether tactical atomic weapons favour the defence more than the attack.

At the same time it is known that the Russian troops are highly trained for operating under atomic battle conditions, especially in skilful use of dispersion and darkness. Indeed, they may be better trained for this 'game' than most of the NATO troops.

Moreover, the military heads of NATO have never shown any confidence that atomic action can be limited, and confined to the tactical field. On the contrary, they have often conveyed the impression that once such weapons are unleashed, their use will soon spread into all-out nuclear war – which means mutual suicide and world destruction.

General Gruenther, then the Supreme Commander, expressed that view even in 1954, when the decision was taken to introduce tactical atomic weapons. So did Field-Marshal Montgomery. That same gloomy conclusion was reiterated in 1957 by Gruenther's successor, General Norstad, who said that in his own mind he found it impossible to draw a line between the tactical use of such weapons, against an attacker's forces, and their strategical use, against the homelands.

The conclusion was re-emphasized, with greater force, last autumn by Admiral Charles R. Brown, the present Commander-in-Chief of the Allied Forces, Southern Europe. Speaking in Washington, just before taking over this high command, he said: "I have no faith in the so-called controlled use of atomic weapons. There is no dependable distinction between tactical and strategic situations. I would not recommend the use of any atomic weapon, no matter how small, when both sides have the power to destroy the world." His conclusion was the more significant because of his study of the problem in his previous post as Commander of the U.S. Sixth Fleet in the Mediterranean – the most powerful striking force in Europe and the Near East.

Is there any better, and more hopeful, alternative in sight as an effective but non-suicidal means of defence?

Gas offers such an alternative – especially in the new disabling but non-lethal forms that have been developed. Even in World War I the most effective chemical weapon was mustard gas, which disabled more but killed fewer than any other important weapon. Moreover it favoured, and aided, defence by its obstructive and delaying effect.

Now, new gases have been developed which are far more paralysing as an antidote to aggression. They can "make a cat frightened of a mouse" – not only in the metaphorical, but in the literal sense of the phrase.

This development fulfils a vision of nearly forty years ago. Soon after the First World War I argued, in a little book on *The Future of War*,

that "self-interest as well as humane reasons demand that warring nations should endeavour to gain their end . . . with the least possible permanent injury to life and industry. To inflict widespread death and destruction is to damage one's own future property, and, by sowing the seeds of revenge, to jeopardize one's future security". I went on to suggest that: "Chemical science has provided mankind with a weapon which reduces the necessity of killing and achieves decisive effects with far less permanent injury than in the case of explosives."

Ironically, this hopeful prospect was hindered by the solemn prohibition of the use of gas in warfare which was formulated and agreed at the Washington Conference of 1921, and subsequently repeated at Geneva. The signatory Powers at Washington added to the prohibition an undertaking "to denounce the use of poisonous gases and chemicals in war, as they were used to the horror of all civilization in the war of 1914–18".

That denunciation was an emotional revulsion, particularly against a novelty in weapons, rather than a reasoned conclusion from the facts of war experience. Its irrationality became evident in analysis of the casualty figures – of which full and classified details were compiled for the British and American armies. Among the British casualties from bullets or high explosive shells, the proportion was approxmately one dead out of every three men hit, whereas among the gas casualties only one man in thirty died.

The American figures were even more illuminating. Coming into the war at a late stage, their army met gas warfare at its peak, and nearly one-third of their total casualties were caused by gas. But only one in fifty died compared with one in four of those caused by bullets or high explosive shells. Thus, a soldier disabled by gas had twelve times as much chance of recovery.

The difference between the British and American ratios is explained by the fact that the British suffered the chlorine gas attacks of 1915 and the even more deadly but less pain-causing phosgene gas in 1916, whereas by the time the Americans arrived on the battlefield these types had been largely superseded by mustard gas, which was more effective but less lethal, even though painful.

In the first gas attack, Ypres in April, 1915, the French and British troops at Ypres were taken unawares, and the sight of men choking to death as the greenish-yellow mist spread over their trenches produced a feeling of terror and horror – which was vastly multiplied by sensational reporting, and subsequent propaganda. In these first attacks, too, the death-roll was nearly one in four of those affected. A novel weapon that caused almost as high a proportion of deaths as the conventional bullet or shell naturally appeared more barbarous. That first impression, and its exploitation by propaganda, obscured from the public mind the much-diminished lethalness in proportion to disabling effectiveness of the improved gases that were employed later in the war.

Yet a clear deduction from the death ratios among casualties was that 'poison gas' as used in World War I was far more humane as a weapon than shells, bombs, or even bullets. That applied even to the more painful forms of gas – for most men would prefer a period of pain to a ten-times greater chance of death. Moreover, the relative humaneness of the chemical weapon was all the greater because the military effect could be, and was, achieved without the destruction of towns and devastation of countries inevitably produced by explosive weapons.

Thus, the main effect of the Washington and Geneva prohibition of gas was, ironically and tragically, to preserve for the battlefields of the future the more fatal effects of high explosive, and also its shattering effects on the structure of civilized society. For explosive weapons destroy the economic foundations of a return from war to peace. Once the conductors of war were left without an alternative kind of weapon, that danger was bound to increase as air-power developed – and would be immensely multiplied by the development of atomic power.

Although research and experiment with gases continued, the signed agreement to prohibit their use in war became a restraint on military study of the tactical use of gas and the practice of it in troop exercises. No army liked to appear to be preparing to employ gas in war.

Such restraint was reinforced by the soldierly dislike of unconventional weapons, that has always been prevalent. It was typified in ancient times by the Spartan commander, Archidamus, who, on seeing a dart shot from a new catapult-machine, exclaimed, "O Hercules, the valour

of man is at an end." In the same spirit the Chevalier Bayard, the model of mediaeval chivalry, showed no mercy to musketeers, in contrast to his kindly treatment of captured swordsmen and pikemen.

There was also a soldierly distrust of the value of non-lethal gases. That was typified by the response made by a general concerned with such weapons to the British chemist who suggested the use of dichlorethyl-sulphide (mustard gas) – two years before the Germans adopted it. The general's immediate question was: "Does it kill?" The chemist replied: "No, but it will disable enormous numbers of the men temporarily" – whereat the general said: "That is no good to us; we want something that will kill."

Such soldierly dislike and distrust of chemical weapons, coupled with lack of familiarity and practice with them between the wars, were influential factors in preventing the use of them in World War II – as influential, probably, as the deterrent knowledge that both sides possessed and could use them in retaliation if they were re-introduced. In a similar way, the C.D.L. tanks (fitted with special flicker searchlights for blinding the enemy as well as night-firing), a British invention on which many million pounds were spent, were never used in the war – having been kept so secret that the commanders in the field regarded them distrustfully and thus repeatedly hesitated to employ such unfamiliar instruments.

If the Western Allies had used mustard gas in 1940 they could almost certainly have stopped the Germans from breaking through the Meuse front and over-running France. For even if the tanks could have driven on, the foot-marching infantry masses could not have followed to back them up, and they would have been left isolated. Thus France could have been saved from defeat. In 1944–45, too, the Germans could have held up the Allies' land advance by the same means, even though they might still have succumbed to the Allies' overwhelming air attack.

That reflection casts doubt on the oft-repeated assertion that, in an emergency, nations will use any means to save themselves from defeat, and to win the war, regardless of any rules of war to which they have agreed in peacetime. Unfamilarity with a weapon, and uncertainty about its results, have as much restraining power as any treaty promise.

But in the limitation of war, the restraint on the use of gas that followed its formal prohibition and practical discard after World War I has not proved to the advantage of humanity and civilization. The development of explosives continued apace, led on to the atomic bomb, and culminated in the hydrogen (thermonuclear) bomb – which now threatens world-destruction. Moreover, countries which may be invaded nowadays by an aggressor with numerically superior forces, using conventional weapons, are faced with the grim choice between the certainty of defeat, which spells enslavement, and the near-certainty of suicide, if nuclear weapons are used in their defence.

A reversion to chemical weapons would at least offer a better alternative, and more hope of successful defence without suicide – if deterrence fails. Chemical weapons are most effective in checking invasion and delaying all advancing movements on land, whereas they are far less effective against stationary forces and cities. By the end of World War II, new gases were developed that could penetrate any advancing tanks and knock out their crews within a fraction of a minute. While mustard gas is not so decisive as an attack-quencher it has immense disabling and delaying power, and remains supremely effective in the latter respect.

It is particularly absurd to forego the defensive use of mustard gas, the most obstructive yet least lethal of weapons, while adopting the use of nuclear weapons – which are weapons of mass-slaughter, and violate the lawful code of warfare on more counts than such a weapon as mustard gas, which is relatively humane.

Moreover the latest types of nerve-gas now developed are much more effective still in producing a short-term disablement of the attackers, without killing. They paralyse the will to fight, and quench the valour of the fiercest attacker.

Their effect is most striking, and, laughably, demonstrated by putting a mouse into a box along with a cat. The cat promptly pounces on the mouse – but, after a whiff of the new gas, has its instincts reversed. Every time the mouse approaches, the cat jumps back in fright – even falling over backwards in its efforts to avoid the mouse! Such a demonstration, and such a gas, provide a far more hopeful portent for peace and humanity than the multiplication of the atomic deterrent.

The Atlantic Congress

These addresses were given at a Plenary Session of the Atlantic Congress in London on June 6, 1959

Addresses by the Supreme Allied Commander Europe, General LAURIS NORSTAD and the Supreme Allied Commander Atlantic, Admiral JERAULD WRIGHT, USN

General Norstad

It is proper – it is also encouraging – that the national delegations to this Congress should include, as they do, so many of the outstanding leaders of our countries – men and women whose knowledge and understanding of this great Alliance will, to a very considerable extent, direct its future course and determine its accomplishments in the years to come.

It is a privilege to appear before you as the representative, as the spokesman, of the soldiers, sailors and airmen who man the forward line of NATO, who hold the outposts of freedom.

As we meet here today, let us by all means feel confident and secure, but let us not forget that the strength that you have created through NATO continues to be the guardian of peace. Let us remember that these soldiers, sailors and airmen of ours remain our guarantors of freedom.

It is fitting that we of NATO should take stock of our position at this time of anniversary. In order to see clearly where we now stand, and to consider what must be done in the future, we should first recall where we stood in 1949, when the Atlantic Treaty was signed. The situation in Western Europe in the aftermath of World War II destruction and in the shadow of disillusionment of the immediate post-war period, now seems remote. But you will remember how real it was at that time. The atmosphere then was certainly not characterized by firmness or resolution, nor did there appear a reasonable foundation on which to base any real hope. The shadow of the Soviet threat – and the Red Army – was cast far across what has now become known as NATO Europe. In many areas, industry was almost at a standstill – and even that simple commerce by which man distributes the bare essentials of life seemed scarcely to exist. If people thought of tomorrow, it was with fear of what the day would bring.

By signing the Treaty, the twelve nations of the Atlantic Community served notice that they were determined, in the words of the Preamble, "to safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law". The decision to create a military establishment within the framework of the Alliance was made late in 1950, a decision compelled by the continuing threats of the Soviets—a step forced by such brutal and tragic events

as the Communist seizure of power in Czechoslovakia, the attempt to blockade the courageous people of Berlin in 1948 and 1949 and the aggression against Korea a year later. By our action to provide for our common defence, we gave public testimony in support of the commitments we had undertaken in adhering to the North Atlantic Treaty. By creating the strength necessary to give substance to our words, we began to produce clear and tangible evidence of the determination of the West to remain free. When General Eisenhower in April, 1951, opened the Supreme Headquarters Allied Powers Europe, just outside Paris, this firm intent began to be translated into equally firm fact.

Much has happened since the spring of 1951. From the northern tip of Norway to the eastern frontiers of Turkey there are NATO forces in being. These forces have a considerable and growing capability with the most modern weapons. The various elements of this strength are welded together by an appropriate Allied Command structure, which is capable of directing our forces under a common plan for the common defence. In the development of these forces, we have taken account of – in fact, we have placed major dependence on – the heavy retaliatory forces. These strategic elements, so closely and completely relied on in the early history of the Alliance, must, in the interest of peace and freedom, retain their effectiveness well into the future.

Although there are weaknesses and deficiencies, even some very grave problems, we are strong from the over-all military standpoint. But our improving military position does not provide the best or the most accurate measure of our posture. In the fullest sense, our strength stems from the fact that fifteen countries have joined together in a common cause; from our determination to remain free, a resolution which must be as great and as steadfast today as it has ever been in the history of our countries and of our peoples.

This strength of fact and of spirit does not go unchallenged. We need look no further than the present threat to Berlin to see a real test of our temper. The Soviet attempt to use, once again, the people of that brave city as pawns in their drive for power, reminds us of the continuing threat. In the face of NATO will and strength, some may have hoped that the threat was being diverted from this area; some may have forgotten for the moment the well-known lesson that the Soviets will continue to intervene wherever there is a situation to exploit. But now we are reminded that wherever the spoiling activities of the Soviets may be found throughout the world, a main focus of their interest continues to be on this Atlantic Community, on this the heart of the West.

Berlin is a case in point, an important one, but only one of several. If there is a lesson to be learned from the brutal acts of the Soviets in the last ten years and from the menacing words of Mr. Khruschchev today, it is that peace and freedom must be supported on a stronger foundation than *mere hope* – that security cannot be achieved by *just wishing*.

I am always impressed by the emphasis which the language of the Atlantic Treaty places on the broad objectives of peace, freedom and well-being. Our hopes and our efforts certainly must be directed toward the creation of a situation where the achievement of these objectives should not so greatly depend – should not *always* depend – on military strength. But in this divided and anxious world, as we look at it today, strength remains essential. As we look forward from the summer of 1959, we see the continuing requirement, in freedom's cause, for power to support our hope for peace.

I say this in full awareness of the great progress that is being made within NATO in fields other than military. In fact, it is because of this progress that I am encouraged to have confidence in the future, which I have. From the habit of consultation within the Council, for instance, there has emerged an increasing understanding of the problems of individual nations as well as an ability to exchange views, to settle difficulties in a climate of friendship and partnership. NATO provides a system for political and economic communication between countries and peoples, and provides a forum in which the common problems can be discussed in the light of common interests, and from which direction can be given to the activities of the member countries, individually and collectively. If I may be permitted to say a good word for my masters, the NATO Council is an important force – a great power – in support of the purposes and principles to which our countries dedicated themselves when they signed the North Atlantic Treaty ten years ago.

I wish to tell you, from the military stand-

point, something of the interim steps which are needed to translate the principles of the North Atlantic Treaty into the policies and actions required to accomplish its purposes. I want to discuss, briefly, our so-called military thinking.

Our emphasis on defence, preserving peace, maintaining freedom directs us to take as our first military objective the prevention of war. It is this fact that has added so heavily to the meaning of the word 'deterrent', and which has re-shaped the definition of that word. As seen from NATO Europe, the deterrent is made up of two major elements: the heavy strategic forces, which are sometimes called the retaliatory forces, and the Shield Forces under my command. Taken as a whole, the heavy strategic forces constitute one side – the heavy side – of the deterrent. Although these forces could be used, and used effectively if need be, against lesser challenges, their full power would be needed only to meet a major challenge. It is the existence and the effectiveness of these heavy forces that must be considered by an aggressor who contemplates an act which might lead to major involvement. When considered in these terms, a deliberate decision to provoke a major war becomes most improbable – the price of aggression becomes too great.

Thus, perhaps the greatest danger might spring from a weakness inviting exploitation – from a probing operation which might well get out of hand as the result of a miscalculation. In short, from a mistake. With this in mind, we have arrived at what we consider the basic objectives of any valid strategy for Europe. First, in the event of an incident, a clash, whether intentional or unintentional, we must be able to force a pause, to compel a break in the continuity of the action that has started. Second, during this pause, an aggressor must be forced to make a conscious decision. He must be compelled to realize that by continuing the action he chooses war with all its consequences to him. Third, when he is considering this decision, he must at all times be forced to weigh the total cost of his action. He must consider the full price that may be exacted by bringing into operation the full efforts of all the forces and factors that make up the deterrent throughout the world.

The Shield Forces of NATO are designed to achieve these objectives, and thus they have an essential role within the deterrent. This vital Shield consists of ground forces, air forces and naval forces which are deployed in the forward areas and participate in the forward defences. The Shield Forces are not limited to conventional units, equipment or operations. They do have that independent capacity, of course, but they also are armed with nuclear weapons. They are designed to accomplish their mission of preventing war, of defending Europe against a broad range of threats.

The Shield has three military functions:

One is traditional in nature: its forces must defend the easternmost peoples and territories of the Alliance, and in so doing contribute to the defence of the entire NATO area. This defence involves holding Europe against a full range of possible attack, up to aggression in its heaviest form. The forces must be adequate in number and they must be capable of dealing with both nuclear and non-nuclear situations.

The second function is more complex. If composed, as it must be, of forces maintained in a high state of readiness and capable of meeting even an attack in substantial force, the Shield can deny to the aggressor the inviting prospect of conquering Europe piecemeal or by the sheer weight of his masses. Our forces need not be massive in comparison with those that might be thrown against them; but the Shield must be strong enough, and its resources sufficiently versatile, beyond all possible doubt, to deal decisively with any attack short of the unmistakable, deliberate, all-out aggression which would invoke the heavy side of the deterrent.

Function three springs from the one I have just mentioned. By reason of its mixed capabilities, nuclear and non-nuclear, the Shield is designed to make possible a more flexible response by our forces, and by our diplomacy, in a region where any challenge could have the gravest implications. As I have stated, a rational strategy in this nuclear era is one that offers an interval for deliberation, that compels an aggressor to make a conscious decision for war. Were the Shield Forces too weak to deal with an attack against them, this requirement would not be established and the alternatives facing us would be either to accept defeat on the narrow ground of the enemy's choice, or to risk a general war. If, however, we have strength enough in our Shield Forces, the dilemma passes to the aggressor. It is the aggressor who then must weigh the power not only of the forces

directly in front of him, but also of all other elements of the deterrent. It is the aggressor who then must choose between risking all or attempting nothing.

I hope I have made it clear that we must equip the Shield Forces, these forces which have for their purpose – their sole purpose – the defence of our people and territory, with the best and most modern weapons available. Included among these weapons vitally needed for our defence are some which depend for their effectiveness upon atomic warheads. We introduce these weapons without boast and without threat. With our devotion to peace and freedom, this action to provide for our security needs no justification.

On the other side of the Iron Curtain, at Leipzig in March of this year, Mr. Khrushchev bitterly attacked the liberal credos of the Western World and boasted of the material force that backs the Communist cause. In Albania he has recently engaged in the not very subtle game of brandishing the Soviet threat of long-range weapons. A short time ago, similar attacks were directed toward our northern region. These efforts to bring pressure on our staunch NATO members will, I am confident, only reinforce the will of their peoples to decide for themselves, in the light of their own national interests, what they must do about their self-defence and what contributions they must make to the collective defence of the Alliance in which they are voluntary partners.

The authoritative comment on this tendency of the Soviet leaders to threaten the Alliance and to depict Allied strength as the ultimate sin was that made by the Heads of Government of NATO in December, 1957. At their meeting in Paris they stated that: "The Soviet leaders, while preventing a general disarmament agreement, have made it clear that the most modern and destructive weapons, including missiles of all kinds, are being introduced in the Soviet armed forces. In the Soviet view, all European nations except the U.S.S.R. should, without waiting for general disarmament, renounce nuclear weapons and missiles and rely on arms of the pre-atomic age.

"As long as the Soviet Union persists in this attitude, we have no alternative but to remain vigilant and to look to our defence. We are therefore resolved to achieve the most effective pattern of NATO military defensive strength, taking into account the most recent developments in weapons and techniques.

"To this end, NATO has decided to establish stocks of nuclear warheads which will be readily available for the defence of the Alliance in case of need."

What I have just cited was a valid answer to the words and actions of the Soviets in December of 1957. It is, if anything, even more applicable today in the light of the many proposals for restricted areas, or, in Mr. Khrushchev's words, "zones of peace", which conspicuously omit the zone whence comes the greatest threat to our European members, the U.S.S.R. itself.

There can be no nobler cause than the quest for peace. Certainly, in our time the increasing destructiveness of weapons places upon all of us the urgent responsibility of devising means that will discourage war. The choices before us are difficult and fateful. The threat of war carries with it the risk of great catastrophe; so also does any weakening of our essential means of defence without real safeguards and genuine guarantees. The question before us is clear: how can we reduce the risk of catastrophic war without forfeiting the means of defending the liberty which is our life?

A London newspaper a few months ago reminded us that even the simple word that stands for the North Atlantic Treaty Organization, NATO, has itself "come to be synonymous with other combinations of letters which also stir deep emotions in the hearts of men – freedom, peace, independence, human comradeship and the will to survive". An Alliance that has succeeded in ten short years in identifying itself among the free people of the world with these great purposes will find an answer to that question.

Admiral Wright

In the world of free democratic states the controlling power which guides and directs all our activities is the power of free government, the power of voice of free people exerted through their elected representatives. In no place or on no occasion in the world today is the strength of this power more evident, more manifested, than in this Congress of national, civic and educational leaders of all the nations of our NATO Alliance.

The great asset of free government is the

domination and control by its civil leaders, of its military forces and the parallel recognition by these civil leaders of the absolute necessity of adequate military strength. This is the background of mutual understanding against which civil and military leaders of free nations and of our Alliance work together in the solution of the most important of all national and international problems; the problem of defence. This is the reason why we military commanders are here today on this platform meeting with you and discussing defence. The strength of our defence, national and collective, to resist the expanding pressures of Communist dictatorships has three co-equal components.

The *first* component of our defence is our political strength: the strength of our concept of free and representative government, the strength of the principle of man's supremacy over state, and the strength of our appeal to all the people of all the world on our concept of real freedom and of the application of truth and justice to national and international affairs. Our political strength is based on the principles of representative government. It is manifested nationally by our free elections and by the votes of our legislatures. It is manifested internationally by our support of the United Nations. Perhaps the greatest evidence of its strength is in the political alliance of the fifteen independent and sovereign nations of NATO wherein all are united in their resistance to the dictatorship of the Communist states. Our political strength is the keystone of our individual and collective defence.

The second component of our defence against Communism is our economic strength, our productivity, our ability to maintain ourselves and our status and stature in the world markets. Nationally a sound economy is indispensable and inseparable from a secure national defence. Internationally, a sound economy is the only peacetime means we have for the very necessary and vital competition, in the world markets, with the low cost slave labour products of the Communist states. The whole posture of each nation in world affairs is established by the strength of its economy and the stability of its currency.

The nations of the free world are economically interdependent. Down through the centuries we have learned to trade with each other, to reap the mutual benefits of our several specialized capabilities; agriculture, industry, raw materials, etc. For generations past we have enjoyed access to each other through our control of the seas and our many national economies are built around international commerce.

One great asset which the nations of the free world have for maintenance of a balanced and stable economy is the many thousands of ships of the Allied Merchant Marine. Today, right now, we have over 2,500 ships afloat in the North Atlantic and in the adjacent seas and another 1,000 in Allied ports. Ships give us direct access to each other. Ships provide the economic connecting link between all free nations. Ships make next-door neighbours of all nations which border on the sea. Certainly air transport is also important for international commerce, but we must realize that every ton of freight air lifted to Europe required one and a half tons of aircraft fuel sea-lifted to Europe. Ships, tankers, bring in this fuel and make possible the return and subsequent trips of the aircraft.

Ships carry from nation to nation the vast tonnages of raw materials on which their economies are based. Ships distribute the finished products to all in the world that need them. In peacetime, we enjoy the tremendous advantages of our merchant ships and our highly developed ports and we reap the benefits which both bring to us. In war we depend on our merchant ships for our mutual support, for our reinforcement and for our survival.

I believe that a sound national economy and its essential counterparts, a stable currency and strong maritime ties between all free nations, are indispensable to our collective defence.

This brings us to *the third component* of our defence, namely; the strength of our military forces, our military strength.

Political strength and economic strength are weakened if they are overshadowed by a continuing threat of war. This is particularly true if we, at any time, find ourselves in a position of potential military disadvantage. We are faced with a completely ruthless and unscrupulous adversary, an adversary who will use any and all means, false accusations, broken treaties, threats of destruction and all forms of international blackmail; anything, to throw us off balance politically and to destroy our system of economy; to the end that they, the Soviets, may eventually dominate the entire world.

In this situation we must convince the Soviets that if they attack us they will fail. Thus only can we assure the prevention of war and under this condition only can our political and economic strength play its proper role in the world of today.

Here lies the role of the third component of our defence, our Military Forces: to provide us with the ability to back up our determination to maintain our rights; the ability to neutralize Soviet threats; to face down Soviet blackmail.

To thus prevent war, we in NATO must be ready at all times, ready now, to perform the three military tasks for the defence of our Alliance:

The defence of Europe.
The defence of North America.
The defence of the Atlantic.

These three tasks are represented by the basic organization of our NATO military forces; the defence of Europe is entrusted to SACEUR and his associates in the Allied Command Europe, from their headquarters in Paris. The defence of North America by joint action of Canada and the United States. The defence of the Atlantic is entrusted to us in the Allied Command Atlantic from our headquarters in Norfolk, Virginia.

We cannot assess any relative priority to these three tasks. Europe could not be defended without a secure America. The defence of America would be immeasurably more difficult without her European partners and neither could be defended if the intervening Atlantic were lost to the control of the Soviets.

Why are the sea areas so important to our Allied defence? Almost all free nations border on the seas. All are dependent on the heavy tonnages of cargo ships, passenger ships and tankers for their economic maintenance in peace and their military reinforcement and survival in war. Loss of access to the seas by any nation would be a disaster to that nation and loss of control of the seas by our Alliance would destroy our capability of mutual support.

In a modern war the greater the speed and impact of the initial attack, the greater the initial destruction on both sides of the Atlantic, the greater the need that Europe and America be bound closely together by the only channels capable of providing mutual support – our sea lines of communications.

The Soviets know well our dependence on the seas. They saw in World War II hundreds of thousands of tons of supplies destined for their support sunk at sea before reaching their shores. They saw in the Suez crisis the tremendous impact of the loss of one small strip of seaway on the economy of all the West, Europe and North America, without one iota of effect on theirs.

They know well the value of the seas to us and the value to them of its loss to us.

They have constructed the largest fleet of submarines known to the world in peacetime. It is designed, constructed and maintained for one specific objective:

To destroy our seaborne commerce; to sever our sea lines of communication between nations and continents and thereby to isolate North America from Europe; to prevent the follow-up of our initial advantage and to prevent the reinforcement of our overseas Allies.

Our task, in the Allied Command Atlantic, is to prevent this, to preserve the connecting sea links which make possible a unified defence of our Alliance.

We do this by means of the deep-sea naval forces which the nations of the Alliance have provided to NATO – air, surface and undersea forces, all organized and trained to work together in flexible, mobile task forces for the performance of these basic tasks:

The destruction of enemy naval power at its source; airfields, shipyards, submarine pens and logistic resources.

The control of the bottlenecks leading to the high seas.

The security of our coasts and the protection of our convoys.

All to the end that we may have a secure lifeline across the Atlantic, between North America and Europe.

Now, how are we doing in this task?

I believe you would be interested in a progress report on what has been done in the past few years to meet the Soviet naval threat to our Alliance:

We have *intensified* our Allied anti-submarine warfare training.

We have made rapid advances in standardization.

We have *organized permanent* anti-submarine warfare task forces of all types to develop advanced tactical methods.

We have vastly *improved our weapons*, particularly anti-submarine torpedoes and anti-aircraft missiles.

We have applied *nuclear weapons* to anti-submarine warfare and made them readily available.

We have developed and made available to NATO the most modern and promising anti-submarine weapon – the *nuclear propelled submarine*.

We have assigned to these ships the *primary task* of destroying other submarines and the secondary task of training our own anti-submarine forces in the destruction of nuclear submarines.

And perhaps one of the most important of all we have recognized the great untapped potential of European anti-submarine scientific talent and have established at La Spezia, Italy, the SACLANT Anti-Submarine Research Centre for research by NATO scientists in improvements to anti-submarine warfare equipments.

All these measures have paid big dividends in improved anti-submarine warfare effectiveness. . . .

In conclusion I would say this: our total NATO strength rests on a three point support, a tripod so to speak. One leg political, one leg economic and one leg military. The pressures on each are balanced and each carries its share of the defence load. Weaken one and the load will topple. Maintain all three and our NATO Alliance will continue to be the world's strongest counterforce against Soviet blackmail, the world's greatest deterrent to Soviet aggression and a solid roadblock to Communist expansion.

Let us resolve that by the maintenance of strong defences and by the resolution to use them, if necessary, in defence of the free world, we will assure that the terrible sacrifices of war will never again be necessary.

Book Reviews

PROTRACTED CONFLICT

Robert Strausz-Hupé, William R. Kintner, James E. Dougherty, Alvin J. Cottrell. Harpers. New York, 1959. $3.95.

This book, whose title is taken from a phrase of Mao Tse-tung's, attempts to define the strategic principles used by Russia in her dealings with the West, a relationship the authors describe as war. Western – or more correctly American – counter-measures are proposed, though their detailed analysis awaits a second volume; to some extent they mirror Communist practice, so that 'protracted conflict' may be understood as a generic term, covering both Communist strategy and the response to it. The doctrine stresses deception and the indirect approach: an enemy is worn down and eventually defeated by a spectrum of political, psychological, and military means ranging "from the clandestine distribution of subversive literature to the annihilating blow delivered with every weapon available". Limited war is excluded by definition – 'conflict undertakings' the world over are linked with one another: the struggle is total.

The similarities between these ideas and the concept of *Guerre Révolutionnaire* developed in France are apparent. The French officers' and the American professors' arguments spring from the same wish to understand, and to cope with, our revolutionary age; both have looked to the other side of the hill for inspiration, and both have shaved reality down to fit their theories, even at the risk of vitiating them. What for instance is one to make of this book's contention that Russians prefer indirect methods to military aggression because from Tsarist days on they have had 'bitter experiences' when fighting along their borders or abroad? Can Soviet doctrine really be appraised in terms of Tsarist manœuvres in the eighteenth and nineteenth centuries with their completely different distribution of power – manœuvres furthermore which were by no means lacking in military successes along and beyond Russia's borders? Nor does an argument recommend itself which condemns the Communist habit of thinking "in simple alternatives . . . such as friend-enemy, 'who is not for me, is against me' ", and then does precisely the same by rejecting co-existence with Communist nations, and calling for the "establishment of a universal political-legal order under Western leadership".

The authors rightly stress the importance of psychological warfare, though it is arguable whether Communist theory and practice can be understood by searching for its sources among most of the prominent schools of modern psychology from Le Bon to Horney, whose concepts incidentally are not always accurately presented, i.e., psychoanalysis does *not* aim at catharsis. Perhaps most astonishing is the section dealing with ways used by the Russians to control their own population, who are here depicted as exhausted, underfed, and therefore passive automata, deprived even of the solace of love – "obviously, if the Communists were to change their policies in this field and allow personalized love, the Soviets would recognize in some fashion the importance of the individual". This sort of thing – unfortunately representative of much of the book – is the inevitable outcome of seeing the ambiguities of international life *en bloc*. The West has a great deal to learn from Communist and Oriental strategic thought; but such a book as *Protracted Conflict* is of little help in the task.

PETER PARET

ALLIANCE POLICY IN THE COLD WAR

Edited by Arnold Wolfers. Johns Hopkins Press. Baltimore, 1959. $6.

This group of essays by members of the Washington Centre of Foreign Policy Research is given its unity by the preoccupation of its contributors with the problems that have arisen for the United States as a result of its policy of conducting its relations with the rest of the world largely by means of alliances, and with some of the internal problems of these Alliances, notably NATO. That this policy has got difficulties is not glossed over; Mr. Wolfers himself warns against the idea that 'collective defence' and 'collective security' can simply be equated, and argues forcibly for the view that the United States has wrongly emphasized the 'collective security' functions of the United Nations organization at the expense of the role it can play as "a mediator and conciliator on the road to compromise and peaceful settlement". Mr. Hans Morgenthau, expressing as usual the extreme realist viewpoint, attacks the tendency of the United States to go in for collecting alliances whether or not they really add to the general strength of its position

– though he must be balanced by Mr. Paul Nitze who argues forcibly, if without precision, for the view that the United States ought to campaign for some general pattern of world-order rather than rely on a more limited approach in terms of self-interest. But Mr. Morgenthau makes a good point when he suggests that by arming Pakistan and then helping India to make up for economic weaknesses largely deriving from its counter-effort, the U.S.A. is in fact conducting by proxy an armaments race with itself. In an article which makes too much use of some rather tendentious writings of the American anti-colonialist school – there is a bigger case against the American handling of the Indo-China situation immediately after the Japanese defeat than he admits – Mr. Robert C. Good argues correctly for the view that defence considerations have tended ultimately to dictate what America has done about 'colonial' issues, and that there is too much of a tendency to gloss this over. One of the most thoughtful articles is that by Mr. C. B. Marshall who examines what might be called the post-colonial dilemma, arguing that alliances with 'fledgling States' may do more harm than good since "we (the Americans) seem to think that the whole thing can be done through fire power and an increment of productive efficiency, whereas the states concerned need above all to progress as political societies; they need to fulfil their nominal status as states".

Two complementary articles on the central problems of the alliances and particularly NATO form the core of the volume. Mr. James E. King, Jr., examines the development of the situation in the light of technical changes and concludes that our thinking has not kept pace with them: "just as the totality commonly assumed to be present in our major defensive commitments today would hardly have been possible, as a practical matter, before the advent of planes and missiles and nuclear weapons, so it becomes illogical when these instruments of horror are available to both sides". Emphasizing the importance of limited war capacity, Mr. King suggests a joint inter-service command for tactical operations; he would also reinforce the U.S. mobile reserves by reducing the commitment of U.S. ground forces to Europe. The main thing is not to allow the West's resources to be wholly exhausted in maintaining the deterrent. Mr. Roger Hilsman follows much of the same line of reasoning in his article on NATO strategy. He is very aware of the consequences of the present situation of "having no more than this grim and narrow choice, of meeting aggression with massive retaliation and all-out war on the one hand or with battlefield atomic weapons on the other", for the result would seem to be "an increasing tendency towards a corrosion of European will and the cohesiveness of the alliance". One of his prescriptions is a measure of independent nuclear capability in Europe. But he is aware that there is no easy solution to the problem of a defensive strategy under modern conditions: "The risk of devastation is ever-present, for Americans as well as Europeans. We may by the nature of the military preparations we undertake reduce the chances of atomic war, but we can never eliminate them entirely. The irony is that whatever influence we can exert on events to minimize the risk of nuclear devastation will in a measure depend upon the willingness, both of Americans and Europeans, to face and accept that risk".

Mr. William Welch's article on the "Soviet commitments to collective action" suggests a 'security' rather than an 'ideological' interpretation of the Soviet alliance system that is worth considering, though difficult to accept in full. He should not quote *International Affairs* when he means *Mezhdunarodnoye Otnoshenie* or some of the old ladies of Chatham House will be asking why its journal is all written by Bolsheviks.

MAX BELOFF

WAR AND THE SOVIET UNION

H. S. Dinerstein. Atlantic Books. London, 1959. 31s. 6d.

Dr. Dinerstein's study of the problems posed by war in present circumstances stands out as a remarkable achievement in detailed analysis of the Soviet press and of painstaking reconstruction of a whole doctrine from records made incomplete by Soviet censorship. Much of Dr. Dinerstein's success is due to the detective skill and logic with which he uses the material available to him, and the way in which he constructs his case, step by step, towards conclusions which deserve the closest attention.

The author begins by describing the state of Soviet military thought under Stalin: a stagnant doctrine, clinging to the pattern of World War II, and to the comforting belief that the political and moral strength of Soviet society made defeat in war impossible for the Soviet Union. The effects of nuclear weapons were ignored or played down. Dr. Dinerstein then shows, with full documentation, how Soviet military leaders turned away from Stalin's rigid doctrine after his death, and by 1955 had worked out a new and more realistic conception of war, taking the nature of nuclear destruction into full account, and reappraising the importance of surprise attack with these weapons. Quotations from leading Soviet military figures, reveal a call for a

readiness to be able to strike a 'forestalling' or 'pre-emptive' blow against an enemy whose preparations for immediate attack have become unquestionably clear. The author emphasizes the distinction, made in all Soviet writings, between this 'forestalling blow', and a 'preventive war', in which plans to destroy a potential enemy would have to be laid well in advance, before he had reached the stage of preparing armed aggression.

Having reached this point in his analysis, Dr. Dinerstein turns aside to discuss at some length an entirely different aspect of war and the Soviet Union: the views of the Communist Party of the Soviet Union on the role of nuclear weapons, the problem of deterrence, and pronouncements by Soviet leaders, especially Khrushchev, on the likelihood of war. After a convincing reconstruction of a disagreement between Malenkov and Khrushchev on the possibility of using nuclear power as a deterrent (Malenkov viewing the possibilities favourably and Khrushchev with pessimism), the author comes to the conclusion that speeches by Khrushchev on the dangers of war have more value to the student of internal Soviet Party politics than for those of military doctrine. This diversion is of great interest to the student of Soviet affairs, but its conclusion that "Soviet debates over the likelihood of war are not easy to analyse, because public discussion in the Soviet Union does not necessarily reflect the basic problems confronting the leaders", and "All the evidence presented in this and the preceding chapters seems to point to the conclusion that public Soviet statements about the imminence of war are often employed for domestic political purposes. . . .", makes one wonder why so much space—three chapters – was given to a detailed study of this material. Possibly the same point could have been made more concisely.

Dr. Dinerstein picks up the military argument again in Chapter 6, and explains the Soviet view that in an exchange of nuclear blows between the U.S.A. and the U.S.S.R., the immediate destruction of either side is extremely unlikely and that war could only be concluded by a series of campaigns, mounting in intensity, leading to the defeat of the enemy's forces in battle, and the occupation of his territory. He concludes:

> "The Soviet forces are expected to deter or to repel aggression, but these defensive functions derive from the ability of the forces to wage offensive war successfully. The guiding Soviet principle is readiness to fight any kind of war in the most effective way, no matter what the relative likelihood of the different kinds of war. The Soviet leaders and planners have not succumbed to the kind of defeatism that argues that the destruction will be so great as to make it pointless to prosecute a major war in the most vigorous and effective way. The basis of the Soviet doctrine is that war would be a calamity indeed, but that its most awful consequences can be reduced by the creation and thorough training of a differentiated force ready for every contingency. The Soviet leaders believe further that in some circumstances it might be desirable to strike an initial nuclear blow, and they mean to have a military establishment suited to that end." (p. 257).

From the material examined there can be no doubt that this conclusion is generally justified – with one possible exception. This concerns the point of Soviet readiness for a 'forestalling blow' in present circumstances. The author quotes the Soviet Marshal Rotmistrov, from *Military Herald*, November, 1955.

> "Naturally it is impossible to foresee every trifle in all cases, but when such events as surprise attack by an aggressor are involved it is possible and, frankly, necessary under any conditions not to permit the moment of surprise whose consequences might at the present time be difficult to overcome. It is absolutely clear and beyond argument that Marxist-Leninist science is fully capable of foreseeing such a significant phenomenon in the life of society as the transition from a condition of peace to a condition of war."

The author comments:

> "In the absence of a belief that timely warning was possible, the whole pre-emptive strategy would be meaningless."

Marshal Rotmistrov, of course, was writing in 1955. Since then, the Soviet Union has fired an intercontinental ballistic missile, which Soviet military writers, as Dr. Dinerstein points out, have described as 'the decisive weapon'. General Pokrovski, from whose articles the author has quoted extensively, also wrote in *Izvestiya* on August 31, 1957:

> "If the rocket, or specifically its warhead, which had been freed from the engine, travels at a speed of say, six kilometres per second, and if it is discovered by radar at a distance of, say, 300 kilometres from the target, that leaves 50 seconds until the moment of explosion. This time is insufficient even to sound the usual air-raid alarm. Therefore the blow dealt by the explosion of the rocket turns out in practice to be absolutely sudden, and the effectiveness of such a blow increases correspondingly."

A Colonel Sidorov, writing in *Soviet Fleet* on December 11, 1958, said: "Surprise has now in effect already been turned into a permanently operating factor, and this situation must be considered by

military science." One is tempted to ask, therefore, whether Soviet military thought has not begun to have doubts about the 'forestalling' or 'pre-emptive blow' in view of the increasing impossibility of 'timely warning'. It would be interesting indeed if we knew what Marshal Rotmistrov would write on this subject since the inter-continental ballistic missile. It is a possibility that in the years ahead the 'pre-emptive blow' will wither away for lack of warning, and Soviet doctrine will increasingly occupy itself with action to lessen the destruction caused by missiles arriving at lightning speed, and how to keep the bulk of the armed forces intact – perhaps by removing them to less 'dangerous' areas beyond the bounds of the Soviet Union?

There can be no doubt, however, that Dr. Dinerstein has made a notable and worthy contribution to the study of the Soviet Union's politics and military doctrine. His book is all the more valuable because of its documentation and excellent bibliography.

MALCOLM MACKINTOSH

SOCIOLOGY and the MILITARY ESTABLISHMENT

Morris Janowitz. Russell Sage Foundation. New York, 1959.

Sociologists have never taken the military establishment as seriously as it deserves. So at least argues Dr. Janowitz, echoing those economists, historians and academic lawyers who constantly complain that their colleagues regard military affairs as something peripheral and exceptional, and barely worth the attention even of specialists. This short book attempts only to indicate where sociology has been of practical value to the armed services, and to outline some of the peculiarities of the military establishment particularly interesting to the sociologist. The impatient layman may feel that many of the points somewhat ponderously made by Dr. Janowitz are obvious to the common sense of the intelligent observer and could be much more pithily expressed. Such sentences as, "The contradictory interplay of practices designed to stimulate group initiative and those practices required for organizational co-ordination are again widespread bureaucratic processes" or "While generalizations in this area are most hazardous, it does seem that weapons systems which maintain close physical proximity of team members and enhance the process of communication contribute most to primary group cohesion" seem to obscure rather than illuminate truth. But for those with the patience to thread their way through the tortuous thickets of his style Dr. Janowitz says many wise things in a very short space. He analyses the change which new weapons-systems and new forms of warfare are effecting in the traditional format of the armed services, and the tensions which thereby result. He dwells on the different functions, of command and co-ordination, which confront the officer, and the difficulty of devising a training system to develop both forms of skill. He speaks of the increasing part which persuasion, rather than command, plays in the complex military bureaucracies of our time; and, perhaps most important of all, he emphasizes the contribution to morale in combat of what the layman would call 'comradeship' and the sociologist labels 'group cohesion'.

It is certainly a cause for wonder that sociologists should not have shown greater alacrity in availing themselves of the excellent material for field-work which they would find in the military social organisms on their doorsteps; and Dr. Janowitz shows the sort of contribution which applied sociology has made and can make to solving problems of military organization. But so long as he and his fellows express their conclusions in such esoteric terms they are likely to be regarded with continuing suspicion by those military organizers who have the greatest need of their help.

MICHAEL HOWARD

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